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Edmonton EcoPark Planning Brief

Supplementary Planning Document to the Local Plan

Adopted May 2013



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Contents

1 Introduction

1 Introduction

1.1 What is the purpose of this Planning Brief?

- 1.1.1** The Edmonton EcoPark site plays a key role in managing the municipal waste as well as commercial waste, collected by the 7 north London boroughs. This Planning Brief has been prepared to guide the future development of the site.
- 1.1.2** The Brief sets out the opportunities and constraints for the development of new waste management and other facilities on the site, and sets out the principles which these should follow. The extent of the area covered by the Brief is shown in Figure 1.1 'The extent of the area covered by the Edmonton EcoPark Planning Brief.'



Figure 1.1 The extent of the area covered by the Edmonton EcoPark Planning Brief.

- 1.1.3** The Brief does not include new policies; it provides more detailed site specific guidance on how to achieve objectives in Enfield's Local Plan, specifically the adopted Core Strategy, the North London Waste Plan and Central Leaside Area Action Plan.
- 1.1.4** The relationship between this document and other documents in Enfield's Local Plan is illustrated below.

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**ENFIELD LOCAL PLAN:
RELATIONSHIP OF COMPONENT DOCUMENTS**

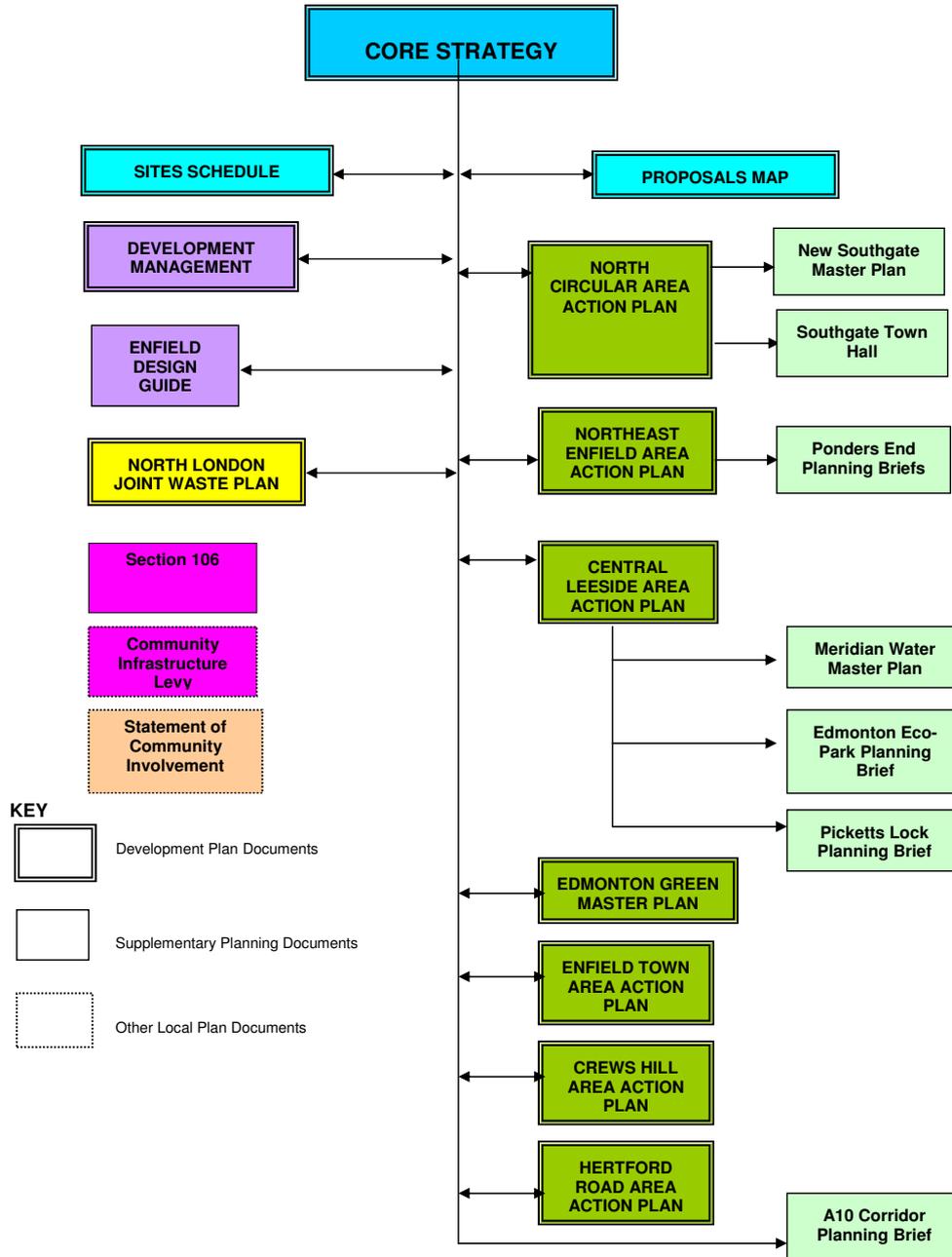


Figure 1.2 Relationship of Component Documents

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1.1.5 As supplementary planning guidance to Enfield's statutory Local Plan, the Brief will be a material consideration in assessing any future planning applications relating to the site.

1.2 The challenge ahead

1.2.1 There is insufficient infrastructure to treat the amount of waste produced, therefore currently nearly two fifths of the waste generated in north London is sent to landfill. Every year the residents and businesses in north London produce around 2.3 million tonnes of waste with another 2.2 million tonnes of construction, demolition and excavation waste. The amount of municipal waste collected in north London has been in decline since 2006/2007, however, the London Plan assumes that arisings will steadily rise and boroughs are required to meet the targets set out in the London Plan.

1.2.2 The Government and the European Union have recognised that it is not sustainable to continue sending waste to landfill. A framework of legislation, guidance and fiscal measures has been introduced to discourage the use of landfill in the future.

1.2.3 The Mayor of London has also set an overall target for London to become self-sufficient in the management of its waste by 2031. To ensure that London achieves self-sufficiency, each borough has been asked to manage a rising proportion of total waste arising within its area (apportionment target). Enfield has pooled its individual apportionments with the six other north London boroughs (Barnet, Camden, Hackney, Haringey, Islington and Waltham Forest), and together the boroughs are preparing a new waste plan, to take the place of the non adopted North London Waste Plan (NLWP) ⁽¹⁾. The waste plan will ensure that sufficient capacity for waste management is provided across the sub region. The Edmonton EcoPark is identified and safeguarded as an existing and strategic waste site in Enfield's adopted Core Strategy and the draft NLWP as it is crucial to helping to meet apportionment. The EcoPark is also safeguarded as a Strategic Industrial Location (SIL) under Core Strategy Policy 14.

1.2.4 The internationally accepted hierarchy of waste management, as illustrated in Figure 1.3 'The Waste Hierarchy' below, is being used to drive change in the way waste is dealt with.



Figure 1.3 The Waste Hierarchy

1.2.5 North London must ensure the provision of modern exemplar waste management facilities to meet its apportionment target and manage waste in the most sustainable way possible. Failure to do this will be detrimental to the environment, opportunities to recover value from waste resources will be missed and it will result in increased costs through landfill tax and fines to boroughs. The provision of such facilities also presents a unique opportunity for Enfield. Development on the Edmonton EcoPark should improve the appearance of the site and facilitate the wider regeneration of this area of the borough, through the

¹ The north London boroughs submitted the previous waste plan (the North London Waste Plan) for examination, the Planning Inspector decided that it failed to meet the Duty to Co-operate and the boroughs have therefore agreed to start again.

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use of more sustainable waste management technologies, job creation, by attracting new businesses and the delivery of a decentralised energy network supplying affordable and low carbon heat to industries, public sector organisations and local residents within the Upper Lee Valley area.

1.3 The future role of the EcoPark

Sustainably managing waste for north London

- 1.3.1** Edmonton EcoPark is the largest waste management site in north London and has a critical role to play as part of a wider network of waste facilities, in managing the area's waste. In order to meet the area's London Plan apportionment targets and manage waste in the most sustainable way, the site must provide the next generation of waste services.
- 1.3.2** To accommodate more efficient and sustainable waste processing facilities, some of the existing facilities on site must be removed and existing redundant space used to accommodate new facilities. Reorganisation of the site will enable the land to be used more efficiently and take advantage of opportunities to improve the quality of development and its environs.
- 1.3.3** It is anticipated that new facilities on site would be developed in two phases. The first phase would develop facilities around the existing Energy from Waste (EfW) facility, primarily at the northern and southern ends of the site (see Figure 3.1 'Layout of the current uses on the site'). It is anticipated that the EfW facility would continue to be used until it reaches the end of its useful life (around 2020). New facilities in the first phase would be designed so as not to compromise the operation of the EfW and it is therefore likely that the location of the site entrance, southern weighbridge, main site access road and link road would be retained in at least a similar form to the existing. The decommissioning of the EfW would then present an opportunity for a second phase of waste related development at the site.
- 1.3.4** The development of any new facilities on site would require planning permission and the scheme would be assessed against local, London and national planning policies. Development of the expected type and scale would also need to be subject to an Environmental Impact Assessment (EIA). The appropriate screening and scoping process for the new development will need to be undertaken in advance of the submission of a planning application. Due to the site's proximity to the Lee Valley Special Protection Area (SPA) and Ramsar site, an assessment of the likely impacts is also required. Furthermore, environmental permits for the operation of the facility would need to be obtained from the Environment Agency.

Supplying low carbon decentralised energy

- 1.3.5** The principal requirement for the future development of the EcoPark is to treat waste in the most sustainable way possible; however the treatment of waste also presents a significant opportunity to generate additional community benefits through the provision of heat. The EcoPark has the greatest potential to be the key heat source for the Lee Valley Heat Network (LVHN).
- 1.3.6** Enfield Council in partnership with Haringey and Waltham Forest Councils, the North London Strategic Alliance (NLSA) and Greater London Authority (GLA) are working together to facilitate the delivery of the LVHN which will provide low carbon, low cost energy to 10,000 homes and more than 150 businesses. The scheme will cut carbon dioxide emissions by 41,000 tonnes per annum, the equivalent of 9,750 homes' annual carbon dioxide production but could have wider economic and social benefits, including job creation.
- 1.3.7** The LVHN will enable Enfield and the rest of north London to lead the way in creating a green economy which will generate inward investment and help enhance the competitive advantage of local businesses through the supply of low cost energy. It would also help to address fuel poverty, reduce carbon emissions and therefore contribute to achieving higher standards of sustainable design and construction in existing and new buildings connected to the network. The scheme will contribute towards meeting the London

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Plan target to supply a quarter of London's energy from decentralised sources by 2025. There is also long term potential to connect to a London-wide series of networks including the Olympic Park and the London Thames Gateway Heat Network.

- 1.3.8** The Upper Lee Valley Decentralised Energy Network Feasibility Study (2012) and Enfield's Renewable and Low Carbon Energy Study (2010) identify the EcoPark as a strategic heat supply location, where there is an opportunity for the existing EfW to provide heat/energy to a energy network now and the potential to ensure long term future of supply beyond the decommissioning of the EfW. One of the key objectives for future development on this site is to take this opportunity forward.
- 1.3.9** The Upper Lee Valley Decentralised Energy Network Feasibility Study proposes that initially, the existing EfW would be adapted so that heat from the facility can be captured and transferred to an on-site energy centre which would be connected to the wider LVHN. During the decommissioning of the EfW, it also proposes that the energy centre continues to operate and, once works are complete, the plot should be used to accommodate another waste treatment technology capable of producing low carbon heat to continue the supply into the LVHN.
- 1.3.10** This existing research confirms that it is feasible to meet the technical specifications required to deliver the heat network on the Edmonton EcoPark site and that such a project would deliver a positive whole life cost which indicates that it is financially viable. The evidence is therefore very clear about the opportunities for, and provides greater certainty that the LVHN can be delivered; and also highlights a critical role for the Edmonton EcoPark site. To take this forward, this Planning Brief sets out how the LVHN can be delivered and planned for as part of the future development on the Edmonton EcoPark site in the short, medium and long term.
- 1.3.11** Given the significance and scale of this opportunity, the Council along with its partners are working together to jointly establishing a Special Purpose Vehicle (SPV) for the development, ownership and operation of the LVHN, and is preparing a business case to establish the viability of delivering LVHN.
- 1.3.12** To progress this goal, in December 2012 Enfield's Cabinet agreed in principle the proposal to establish an SPV and to jointly establish a company with the London Borough of Haringey. Haringey Council has already resolved to endorse the overall approach proposed by Haringey's Carbon Commission to progress an Action Plan for implementation of the Commission's recommendations. This included working with Enfield Council to establish a cross borough legal company structure to take forward the development of an alternative energy supply company.

Being a "good neighbour"

- 1.3.13** The EcoPark should be successfully integrated into the Central Leaside area. It should confront traditional preconceptions of waste treatment to demonstrate that, through thoughtful design and good management, waste management facilities can be successfully located within built up areas and provide wider benefits to the community as part of a coherent and integrated waste strategy.
- 1.3.14** Development must incorporate measures to protect the amenity of local residents and the natural environment. It will need to comply with all regulations governing environmental performance including emissions to air and water, and nuisance risks such as noise and odour. Measures will also be put in place to address the visual impact of the EcoPark on the surrounding communities.
- 1.3.15** The EcoPark must also incorporate measures to reduce its impact on the wider transport network such as the use of sustainable transport modes.

Green Industry Employment

- 1.3.16** The redevelopment of the EcoPark provides the opportunity to benefit the local community through the creation of new employment opportunities. The EcoPark can help to expand the 'green' business sector both through direct local employment and training opportunities in sustainable waste treatment on site,

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and through associated off-site opportunities such as renewable energy, the construction and maintenance of the wider LVHN and the generation of recycled materials which could be made available for local re-use and reprocessing in the Upper Lee Valley (ULV).

- 1.3.17** This, in conjunction with the wider strategies for the economic regeneration of this area, could mean that the EcoPark becomes a catalyst for new green industries and help to broaden the employment and skills base in the Upper Lee Valley.

1.4 Environmental Regulations and Assessment

- 1.4.1** There are a range of bodies that provide the policy framework for waste developments. In addition to securing planning permission, waste treatment facilities are subject to the Environmental Permitting Regulations (England and Wales) 2010 and must therefore obtain the necessary environmental permits from the Environment Agency.
- 1.4.2** Any major development at the EcoPark is also likely to require an Environmental Impact Assessment (EIA) to ensure that the likely effects of new development on the environment are fully understood and taken into account. Development could potentially be categorised as Schedule 1 development under the Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 2011, meaning an EIA will certainly be required. Alternatively development could be categorised as Schedule 2 development, for which EIA is required only if the particular project in question is judged likely to give rise to significant environmental effects. Where there is a possibility that a proposed development will require an Environmental Impact Assessment, the developer can apply to the Council for a 'screening opinion' on whether EIA is needed in a particular case, as soon as a basic minimum of information can be provided about the proposal.
- 1.4.3** Where an EIA is required, the developer must prepare an Environmental Statement and submit it with the planning application. The preparation of the Statement should be a collaborative exercise involving discussions with the Council and statutory consultees. The Regulations enable a developer, before making a planning application, to ask the local planning authority for its formal opinion ('scoping opinion') on the information to be included in an Environmental Statement.
- 1.4.4** Additionally, Article 6.3 of the Habitats Directive 92/43/EEC means that Appropriate Assessments are required where projects that are not directly linked to the management of a Natura 2000 site (a Special Protection Area (SPA), Special Area for Conservation (SAC) or proposed SPAs and Ramsar sites) may have a significant effect on the conservation objectives and would ultimately affect the integrity of the site. The Habitats Regulation Assessment must be undertaken by the 'competent authority' as defined under the Regulations. The EcoPark is located within close proximity to a site of international importance designated a Special Protection Area (SPA) and Ramsar site. Walthamstow Reservoirs, which are part of the Lee Valley Special Protection Area (SPA), along with the Lee Valley Ramsar site, are located approximately 2,444m south of the site.

1.5 Policy and Regulatory Context

- 1.5.1** Local, regional and national planning policies of relevance to the development of the EcoPark are discussed thematically below.

Waste management

- 1.5.2** The key documents that relate to waste management include the National Planning Policy Framework (NPPF), Planning Policy Statement (PPS) 10 Planning for Sustainable Waste Management and its companion guide. Although the NPPF does not contain specific waste policies, which will be published in the National Waste Management Plan for England, it requires local authorities to deliver the provision of infrastructure for waste. PPS 10 outlines the role of planning in delivering sustainable waste management, sets out the waste hierarchy and the criteria for identifying waste management sites. The overall objective of Government policy on waste as set out in PPS 10 is "to protect human health and the environment by producing less waste and by using it as a resource wherever possible" (Para 1).

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Other relevant national policy includes DEFRA's Waste Strategy for England (2007), Commercial and Industrial Waste document (2009) and Anaerobic Digestion Strategy and Action Plan (2011), which place emphasis on the value that can be obtained from the use of different kinds of material recycling facilities as well as the use of energy recovery technologies (including anaerobic digestion) to ensure that unavoidable residual waste is treated in a way which provides the greatest benefits to energy policy.

- 1.5.3** At a regional level, one of the objectives of the London Plan is to consider waste as a resource. Under Policy 5.16, Waste Self Sufficiency, the Plan seeks to “manage as much of London’s waste within London as practicable, working towards managing the equivalent of 100 per cent of London’s waste within London by 2031”. The London Plan states that existing waste management sites, such as the EcoPark, should be clearly identified and safeguarded for waste use (Para 5.82). The London Plan also sets the apportionment targets for each borough, as discussed in para 1.2.3 above.
- 1.5.4** The importance of waste management as a resource is reiterated in London’s Municipal Waste Strategy: London’s Waste Resource (2011) which sets out a vision “to become a world leader in waste management, making use of innovative techniques and technologies to minimise the impact of waste on our environment and fully exploit its massive economic value” (page 13). The Strategy includes targets to achieve zero municipal waste direct to landfill by 2025 and to increase London’s capacity to reuse or repair municipal waste from approximately 6,000 tonnes each year in 2008 to 40,000 tonnes a year in 2012 and 120,000 tonnes a year in 2031. The Mayor’s Business Waste Management Strategy (2011) also sets out measures for better management of commercial waste.
- 1.5.5** The use and protection of the EcoPark as a waste management site is supported in the draft consultation Upper Lee Valley Opportunity Area Planning Framework (ULV OAPF) (2011). This identifies the Edmonton EcoPark as the main site for dealing with waste in the ULV (page 92). The ULV OAPF proposes that the Upper Lee Valley’s waste facilities are developed and consolidated on this site.
- 1.5.6** In Enfield’s adopted Core Strategy (2010), Core Policy 14, Edmonton EcoPark is allocated as a Preferred Industrial Location (PIL) within the overarching designation as Strategic Industrial Location (SIL). Its SIL designation means that its industrial use is safeguarded. Policy 2.17 in the London Plan also safeguards such sites, and recognises that SILs are London’s main reservoirs of industrial capacity and provide major opportunities for locating waste treatment facilities. Core Policy 22: Delivering Sustainable Waste Management supports the EcoPark as a strategic waste site. The Policy states that the Council working with the North London Waste Authority (NLWA) and the site operator will continue to maximise the use of the site with more sustainable and efficient waste management processes including the future decommissioning of the current incinerator. Core Policy 37 on Central Leaside indicates that the majority of the Central Leaside area will retain its industrial and employment character and that waste management will be supported at the EcoPark site in line with Core Policy 22.
- 1.5.7** The emerging Central Leaside Area Action Plan (AAP) provides the specific planning allocations and designations for the Central Leaside area, which includes the Edmonton EcoPark site. The Council has prepared the document Discover Central Leaside: Towards a Draft Area Action Plan (draft Central Leaside AAP) which is an interim engagement document to bridge the gap between where detailed work on the AAP was left back in 2008, the changes which have occurred on the ground and those planned in the future. The document identifies the EcoPark as having a critical role to play in managing the area’s waste and notes that the principle requirement for the future development of the Eco Park is to treat waste in the most sustainable way possible. It also recognises that the treatment of the waste also presents a significant opportunity to generate additional community benefits through the provision of heat. The draft Central Leaside AAP was published for consultation in May 2012.
- 1.5.8** Development of a number of strategic sites in the area is critical in realising the regeneration and revitalisation of the area. The AAP recognises the scale of opportunity through key sites in Central Leaside including the EcoPark. The EcoPark is recognised as a preferred location for the management of north London’s municipal waste and a potential energy from waste hub.

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- 1.5.9** The waste plan being prepared by the 7 north London boroughs will include planning policies to guide the determination of planning applications for waste facilities. Where there is a identified need for land for new waste facilities, the Plan will identify sufficient and suitable sites across north London to accommodate this. Evidence available to date, to identify existing waste capacity across the sub region shows that the EcoPark is a key existing site for waste management.
- 1.5.10** Any future application for the EcoPark will also be determined in accordance with Enfield's Development Management Document, a draft of which was published for consultation in May 2012. The document contains policies covering a wide range of topics of relevance including design, transport, tackling climate change, environmental protection and green infrastructure.

Energy and climate

- 1.5.11** One of the key objectives of the NPPF is a radical reduction in greenhouse gas emissions. The document recognises that planning has a key role to play in securing reductions in emissions and, minimising vulnerability and providing resilience to the impacts of climate change. The Overarching National Policy Statement for Energy (2011) states that the focus of Government activity is on "developing a clear, long-term policy framework which facilitates investment in the necessary new infrastructure (by the private sector) and in energy efficiency" (Para 2.2.2). The role of energy from waste in providing future large-scale renewable energy is also highlighted.
- 1.5.12** The Mayor's Climate Change Mitigation and Energy Strategy (2011): Delivering London's Energy Future sets a target to reduce CO2 emissions levels by 60% by 2025 and 80% by 2050. The Strategy promotes the conversion of waste to energy and the potential revenue that this can generate for London boroughs. The Mayor's decentralised energy programme is currently supporting the commercialisation of large-scale decentralised energy projects which can heat and power London's existing and new buildings more carbon-efficiently.
- 1.5.13** Particularly relevant at a regional level is London's Municipal Waste Strategy which highlights the opportunity in using the vast amounts of heat generated but not currently captured for use by London's incinerators in Lewisham and Enfield (Edmonton) and Annex 1 of the London Plan specifically notes that Edmonton Eco Park has the potential to provide heat and power to neighbouring developments.
- 1.5.14** The Edmonton EcoPark is identified in draft versions of the Central Leaside AAP and ULV OAPF as the preferred location of a supply hub for the Lee Valley Heat Network. The work to date on the viability of a decentralised energy network recognises that this could be the largest network in London, and is viable. The EcoPark forms an important component of the network providing energy from waste to kick-start a decentralised energy network in Central Leaside, the wider area, and extending to neighbouring authorities and connection to the Olympic Park. Policy 5.17 of the London Plan states that wherever possible, opportunities should be taken to provide combined heat and power and combined cooling heat and power. The ULV OAPF states that any such heat or power generated from the EcoPark should stay within the Upper Lee Valley and should not be exported out to the rest of the country. The Council alongside LB Haringey and LB Waltham Forest, in collaboration with the Greater London Authority and North London Strategic Alliance, have completed a Feasibility Study for a heat network in the Upper Lea Valley area. This document identifies a preferred option which will be taken forward through an outline business case and then procurement under the GLA's European Local ENergy Assistance (ELENA) programme. The findings of the DEN Feasibility Study report have informed what contributions are required from future development of the EcoPark, such as safeguarding areas and routes and heat/energy off take.

Regeneration

- 1.5.15** The London Plan identifies the Upper Lee Valley as an Opportunity Area where the Mayor will provide proactive encouragement and support to realise the area's growth potential. In response to this designation the boroughs in partnership with the GLA, North London Strategic Alliance and Lee Valley Regional Park Authority have developed the ULV OAPF as a basis for directing public sector investment in rebuilding and regenerating the communities in this area and investing in the area's industrial base.

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- 1.5.16** Enfield Council has also been developing Area Action Plans (AAP) and Masterplans to take these regeneration opportunities forward at the local level, including the Central Leaside AAP (see para 1.5.7 above), Edmonton Green AAP and Meridian Water Masterplan which are relevant to and in the vicinity of the EcoPark. These planning documents set the vision for significant change in this area of borough.
- 1.5.17** The Central Leaside Area Action Plan (CLAAP) covers the south eastern corner of Enfield and adjoins the boundaries of Haringey and Waltham Forest. The area covered by the CLAAP includes the Edmonton EcoPark site. The vision in the draft Central Leaside AAP is for the area to play a crucial role as a driver and key focus for growth, bringing together public and private sectors to deliver an integrated part of Enfield which is an exciting, attractive and welcoming place to live, work, visit and invest within a unique setting in the Lee Valley. Central Leaside is one of the most significant regeneration opportunities in Enfield, and the areas of growth and development identified within it, are intended to act as a catalyst for regeneration across the Upper Lee Valley and North London.
- 1.5.18** Meridian Water is at the heart of proposals for the Central Leaside AAP, and the Council is working closely with land owners, stakeholders and potential developers to shape the vision and proposals for the area in the form of the Meridian Water Masterplan. The Masterplan was published for consultation alongside the draft Development Management Document and draft Central Leaside AAP documents in 2012. Overall, the Masterplan is a blueprint for radical change in an area of extraordinary opportunity. It will be delivered by attracting inward investors and maximising opportunities for a range of new homes, jobs and opportunities for local people. It gives shape to a distinctive waterfront eco-quarter where development will be both sustainable and of the highest quality. The Masterplan identifies how the Council and its partners can deliver the regeneration of the Meridian Water area to provide up to 5000 new homes and 3000 jobs by 2045, along with complementary infrastructure. Following consultation, the Masterplan will be revised in light of comments received and then adopted as a Supplementary Planning Document (SPD) forming part of Enfield's Local Plan, sitting within the wider Central Leaside Area Action Plan.
- 1.5.19** Edmonton Green is located to the west of the EcoPark and is one of Enfield's regeneration priority areas. Enfield's Edmonton Green Masterplan Issues and Options Report (2012) sets out a draft vision to make it a place where people want to live, work, visit and shop. Edmonton Green will be the main town centre for the new Meridian Water community.

Design and Sustainability

- 1.5.20** The delivery of sustainable development is the overarching objective of the NPPF and it informs policies throughout the Enfield Local Planning framework. Following that overarching framework, the principles of sustainability underpin all the guidance provided in this planning brief. Further details on particular aspects of this are set out below.

Environment

- 1.5.21** The NPPF states that the planning system should contribute to and enhance the natural and local environment by protecting and enhancing valued landscape, minimising impacts on biodiversity and providing net gains in biodiversity wherever possible and preventing new development from contributing to, or being put at, an unacceptable risk from levels of soil, air, water or noise pollution or land instability.
- 1.5.22** The Lee Valley Regional Park (LVRP), which lies adjacent to the EcoPark, is in the Green Belt and designated as a Site of Nature Conservation Importance. Within the LVRP and approximately 2km to the south of the EcoPark, around 450 hectares of the LVRP is registered as a Special Protection Area (SPA). ODPM Circular Biodiversity and Geological Conservation is therefore applicable. In addition, the Enfield Local Plan Policies Map shows that directly east and north east of the Edmonton Eco Park site lie the William Girling and King George's reservoirs which are designated as a Site of Special Scientific Interest and Site of Metropolitan Importance for Nature Conservation as well as an Area of Special Character. Core Strategy Policy 36 seeks to protect and enhance biodiversity interests within the Borough and Enfield's Biodiversity Action Plan provides a framework for achieving the conservation of biodiversity across the borough.

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Open space

- 1.5.23** The NPPF seeks to protect the Green Belt. Core Strategy Policy 33 states that the Council will continue to protect and enhance the borough's Green Belt. The London Borough of Waltham Forest, which also contains Green Belt in the vicinity of the Eco Park, has a similar policy in the Waltham Forest Local Plan - Core Strategy (adopted March 2012). Enfield Core Strategy Policy 33 also designates Pickett's Lock Leisure site as a major developed site in the Green Belt to the north of the EcoPark and identifies an opportunity for improvements to the regional sports, recreational and biodiversity offer. Future development on the EcoPark site must ensure that adjacent green belt land is not adversely affected.

Flood risk

- 1.5.24** Parts of the Edmonton site are within Flood Zone 2 and 3a, and may be vulnerable to surface water flooding. The NPPF states that inappropriate development in areas at risk of flooding should be avoided by directing development away from areas at highest risk, but where development is necessary, making it safe without increasing flood risk elsewhere. Core Strategy Policy 28 states that development of sites in the Central Leaside AAP areas that lie within Flood Zones 2 and 3a but which contribute to the strategic objectives for change will be supported in principle. In addition, it requires all development to have Sustainable Drainage Systems (SUDS). Development at the EcoPark will need to meet the Sequential approach and relevant tests set out in the NPPF and Development Management Document.

Transport

- 1.5.25** In relation to freight, Core Strategy Policy 27 promotes freight intensive uses with good access to the strategic road network and/or proposed water and rail freight facilities in the Upper Lee Valley. The use of the upper lee valley waterways for transport is supported in Core Strategy Policy 35 as well as in London's Municipal Waste Strategy which sets out that Transport for London is working with North London Waste Authority (NLWA) to investigate the potential of using the River Lee for the movement of material to and from the proposed Edmonton waste facility.
- 1.5.26** Draft DMD 75 in Enfield's Proposed Submission Development Management Document states that the Council is supportive of maximising the transportation of freight by utilising Enfield's connection to the Lee Navigation, where the Edmonton EcoPark and other industry are located. The Council along with partners, the NLWA and Canal and River Trust, have commissioned a Feasibility Study into the viability of transporting freight by water to further investigate opportunities to deliver this.

Design quality and Sustainable Design and Construction

- 1.5.27** At a national level, the NPPF recognises that good design is a key aspect of sustainable development, which is indivisible from good planning. Good design should contribute to positively making places better for people. The NPPF also seeks to ensure that heritage assets are conserved and enhanced. The EcoPark is a high profile site, any future design needs to be of high quality in order to minimise the visual impact on neighbouring sensitive receptors, including any heritage assets.
- 1.5.28** Strategic policies in Enfield's Core Strategy require all developments to be high quality and design led, having special regard to their context and character.
- 1.5.29** Enfield's Proposed Submission Development Management Document (DMD) also sets out detailed policies to secure high quality and sustainable design. The development of site specific planning and design briefs for key sites offers the opportunity to set out tailored design standards and guidance.
- 1.5.30** The forthcoming Enfield Design Guide Supplementary Planning Document is, subject to consultation, expected to cover design principles, the public realm, homes and gardens, heritage, open land/landscaping, movement and accessibility and waterways in order to raise standards and inspire good design. Once published this SPD will be relevant to the EcoPark.

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- 1.5.31** Additionally best practice guidance such as Designing waste facilities – a guide to modern design in waste (Defra and CABE, 2008) and Rubbish in- resources out – Design ideas for waste facilities in London (GLA, Arup and Dow Jones, 2008) should be taken on board.

1.6 Structure of the document

1.6.1 This document contains the following chapters:

- Chapter 1: Introduction - *Provides information on the wider policy context underpinning the preparation and development of the Brief*
- Chapter 2: Vision - *Contains the vision and objectives for the future development of the EcoPark*
- Chapter 3: Identifying Site opportunities and constraints - *Analysis of the existing site conditions and the opportunities and constraints they present*
- Chapter 4: Principles for future development of the EcoPark - *Setting out the principles which should be incorporated into the future development of the site*
- Chapter 5: Implementation - *Explanation of how the Brief will be put into action*

1 Introduction

2 Vision

2 Vision

- 2.0.1** The Council has developed the following overarching vision for the site which reflects the appropriate future role of the EcoPark:

The Edmonton EcoPark will be a flagship facility for waste management. The use of the site will be optimised to provide enhanced and sustainable waste treatment facilities in order to extract the maximum benefit from the resources in waste in a way which minimise impacts; deliver wider social, economic and environmental benefit; support broader regeneration opportunities; and is a key catalyst in the development of a heat network in Central Leaside and the wider Lee Valley area.

2.1 Objectives

Objectives of the Brief

- 2.1.1** This Brief has been prepared to provide a framework for the redevelopment of the Edmonton EcoPark site. The objectives of the Planning Brief are to:
- provide a clear structure for the phased development of the site in order to maximise its use for new, more sustainable waste technologies;
 - establish principles for the future layout and design of development to support determination of future planning applications;
 - address transport and access constraints and opportunities;
 - balance the future use of the site with existing opportunities and constraints, and indicate how development should be integrated into the social, economic and environmental fabric of the area;
 - involve the community in planning for the future of the EcoPark; and
 - indicate the information that will be required to support planning applications.

Objectives for the site

- 2.1.2** The objectives for the Edmonton EcoPark have been informed by local, regional and national planning policy. The objectives for the development/site are to:
- play a role in meeting the future waste management needs of north London's residents as part of a network of waste management sites and thereby support increased self-sufficiency for London and better use of resources, and facilitating the local re-use and reprocessing of recyclates;
 - enable waste to be managed as far up the waste hierarchy as possible and make use of more modern, efficient, well designed and sustainable waste technologies, to ensure environmental and economic benefits are maximised;
 - play a key role in providing affordable, secure, low carbon energy to Central Leaside as part of a wider decentralised energy network in the Lee Valley area;
 - ensure no adverse environmental effects and impacts on amenity through the efficient use of land, high quality landscaping and use of sustainable waste management technologies, design and construction methods;
 - enable efficient and effective operation of the site to meet regulatory requirements for health and safety, air quality and environmental protection;
 - minimise local transport impacts, providing off-site mitigation if appropriate and enabling sustainable forms of transport including water borne transport;
 - use a design-led approach to provide a distinctive and well-functioning environment with a high quality of design, materials and finish, integrated with proposals in the wider area of regeneration;
 - ensure local access to employment and training opportunities;

2 Vision

- be of exemplary quality developed in accordance with the principles of sustainable design and construction; and
- be designed to adapt to and minimise climate change impacts, embracing new environmental technologies where appropriate, including how development addresses the following key issues: water, energy, biodiversity, transport, and pollution.

3 Identifying Site Opportunities and Constraints

3 Identifying Site Opportunities and Constraints

3.1 Land ownership

3.1.1 The site is currently owned by the North London Waste Authority (NLWA) and managed on its behalf by London Waste Limited (LWL). The contract with LWL is due to expire in December 2014.

3.2 Existing uses

3.2.1 The Edmonton EcoPark is a 15.26 hectare existing waste management site in the Upper Lee Valley. A number of waste management facilities have operated on the site for over 50 years. The site receives waste from 1.7 million households within the NLWA's constituent boroughs – Enfield, Camden, Barnet, Hackney, Haringey, Islington and Waltham Forest. The existing energy from waste (EfW) facility is located in the centre of the site with other treatment and operational facilities located on the land around the EfW facility. The EfW site is referred to as “Plot 1” while the rest of the site is referred to as “Plot 2”. The site (see Table 3.1 'Area and throughput of each facility') currently contains the following facilities:

- Energy from Waste (EfW) facility manages approximately 550,000 tonnes of residual waste per year and generates around 40MW of electricity;
- In-vessel composting processes kitchen and other green waste from kerbside collections and household waste recycling centres (HWRCs) as well as local parks departments. The compost produced is BSI PAS 100 certified and is given back to the community;
- Bulky waste and recycling transfer station receives bulky waste from HWRCs and enables sorting which produces items for recycling and re-use or processing;
- Ash recycling facility processes the bottom ash produced by the EfW to make an aggregate suitable for construction projects and in the manufacture of asphalt; and
- LB Enfield refuse vehicle depot, however this is due to be relocated elsewhere and planning permission has been granted on an alternative site to enable this move to take place.

3.2.2 The area and throughput of each facility is detailed in the table below⁽²⁾.

Current Facilities	Land take (ha)	Average Throughput (tpa)
EfW facility	3.65	550,000
In Vessel Composting	1.40	33,000
Bulky Waste and Recycling Transfer Station	2.02	200,000 ⁽³⁾
Ash recycling facility	0.81	123,750 ⁽⁴⁾
Area essential for site operation (e.g. roads and weighbridges)	2.49	N/A
LB Enfield Vehicle Depot	0.39	N/A
Currently not in use	0.65	N/A
Other facilities and landscaping	3.85	N/A

² The land take and throughputs in this table are largely based on the NLWP. Details of the final three categories are not provided in the NLWP and this data has therefore been obtained from LondonWaste Limited.

³ Of the 200,000 tonnes of waste treated at the Bulky waste facility, approximately two-thirds (133,000 tonnes) is transferred into the EfW and is therefore excluded from the total throughput calculation.

⁴ The material used in the Ash Recycling Facility comes from the EfW and is therefore not included in the total throughput calculation.

3 Identifying Site Opportunities and Constraints

Current Facilities	Land take (ha)	Average Throughput (tpa)
Total	15.26	650,000

Table 3.1 Area and throughput of each facility

- 3.2.3** The existing facilities are illustrated on Figure 3.1 'Layout of the current uses on the site', which also summarises other key existing site characteristics. Further detail about each aspect of the site is then contained in the following sections.

3 Identifying Site Opportunities and Constraints

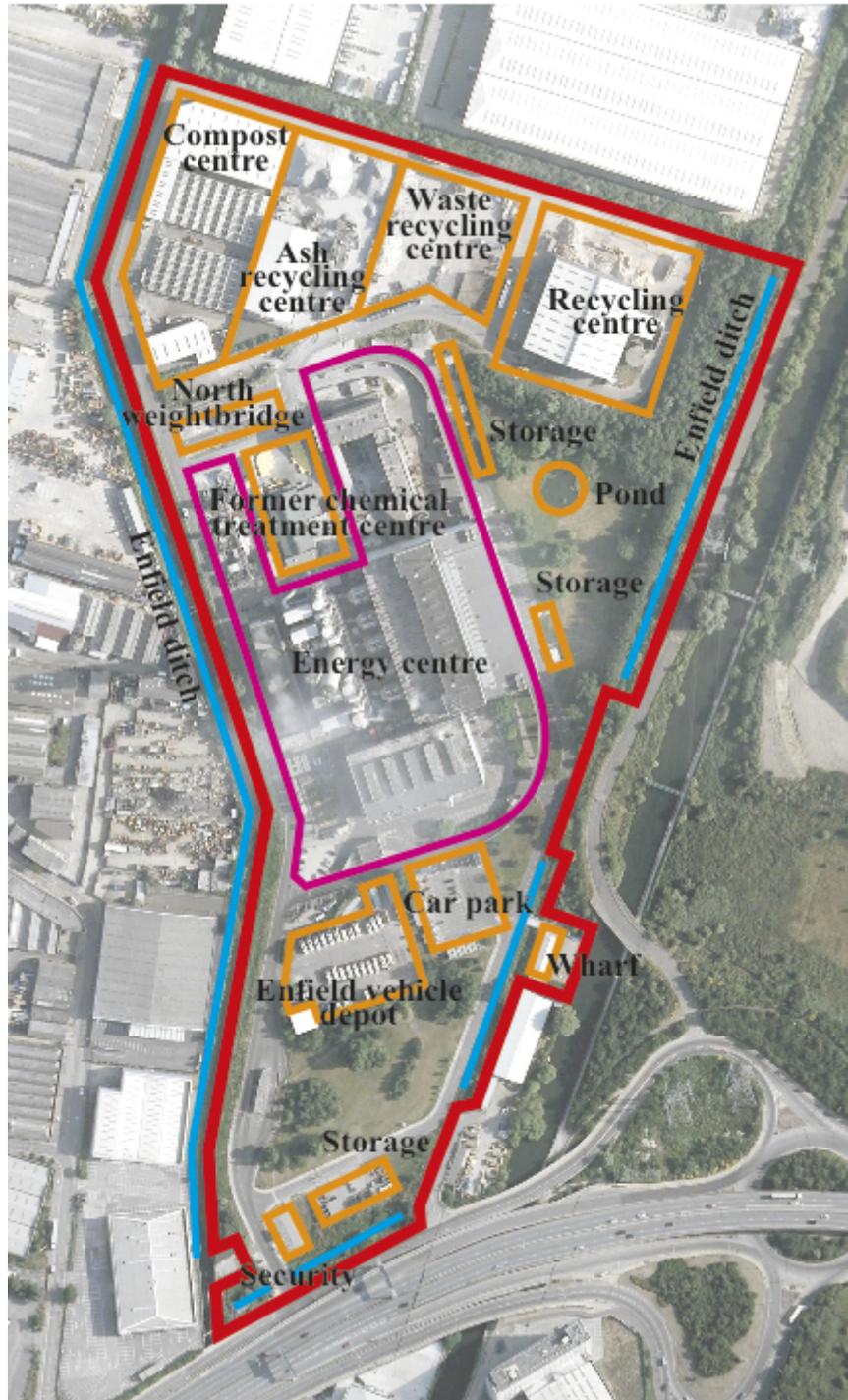


Figure 3.1 Layout of the current uses on the site

Legend	
—	Plot 1 (excluding Plot 2 area)
—	Plot 2
—	Ditches

3 Identifying Site Opportunities and Constraints



Figure 3.2 Existing site characteristics

3 Identifying Site Opportunities and Constraints

3.3 Location

- 3.3.1** The EcoPark is situated within the Lee Valley corridor which stretches 26 miles along the River Lee from Ware in Hertfordshire, through Essex, to the Thames at East India Dock Basin.

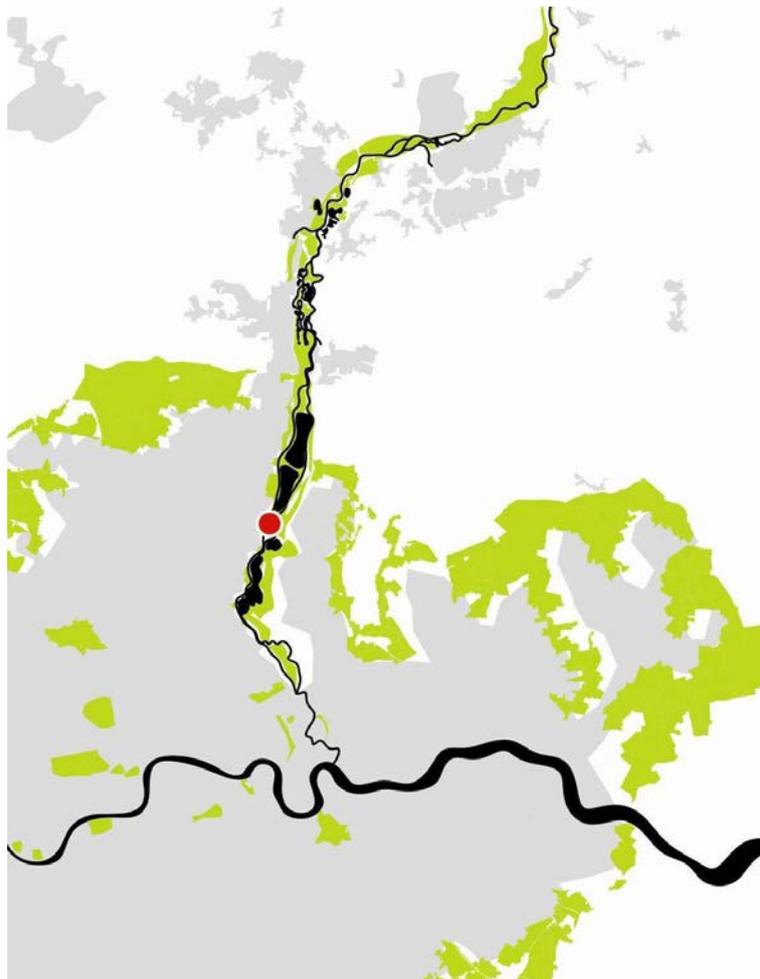


Figure 3.3 EcoPark location in London

- 3.3.2** The Lee Valley corridor is characterised by major infrastructure including reservoirs, parks, industrial estates and residential suburbs. The corridor is woven with natural and artificial green spaces which wrap around the man-made industrial structures. The corridor includes areas of Green Belt sandwiched between the east and west urban edges. This area accommodates leisure venues, open spaces, heritage sites and sports venues including the Lee Valley Golf Course (immediately north of the site), Lee Valley Athletics Centre (to the north of the site) and the Lee Valley Regional Park (to the east of the site). This area also includes several heritage sites including the grade II listed Chingford Mill Pumping Station, Chingford Mill Turbine Hall and its associated rails to the east of the site. To the west lies the Montagu Road Cemetery Conservation Area. The site itself lies within the Lea Valley West Bank Archaeological Priority Area.
- 3.3.3** The Lee Valley Regional Park (LVRP) is designated as Green Belt and a Site of Importance for Nature Conservation (SINC) of Metropolitan Importance. The LVRP narrows in the vicinity of the EcoPark and is visually enclosed by the high grassed bunds of the William Girling Reservoir that forms a key feature in the landscape. It is designated as a Site of Special Scientific Interest (SSSI) providing major wintering ground for wildfowl and wetland birds. Approximately 2km downstream of the site, adjacent to the Lee Navigation is the Lee Valley Special Protection Area (SPA) / Ramsar site, centred around Lockwood and Maynard Reservoirs.

3 Identifying Site Opportunities and Constraints

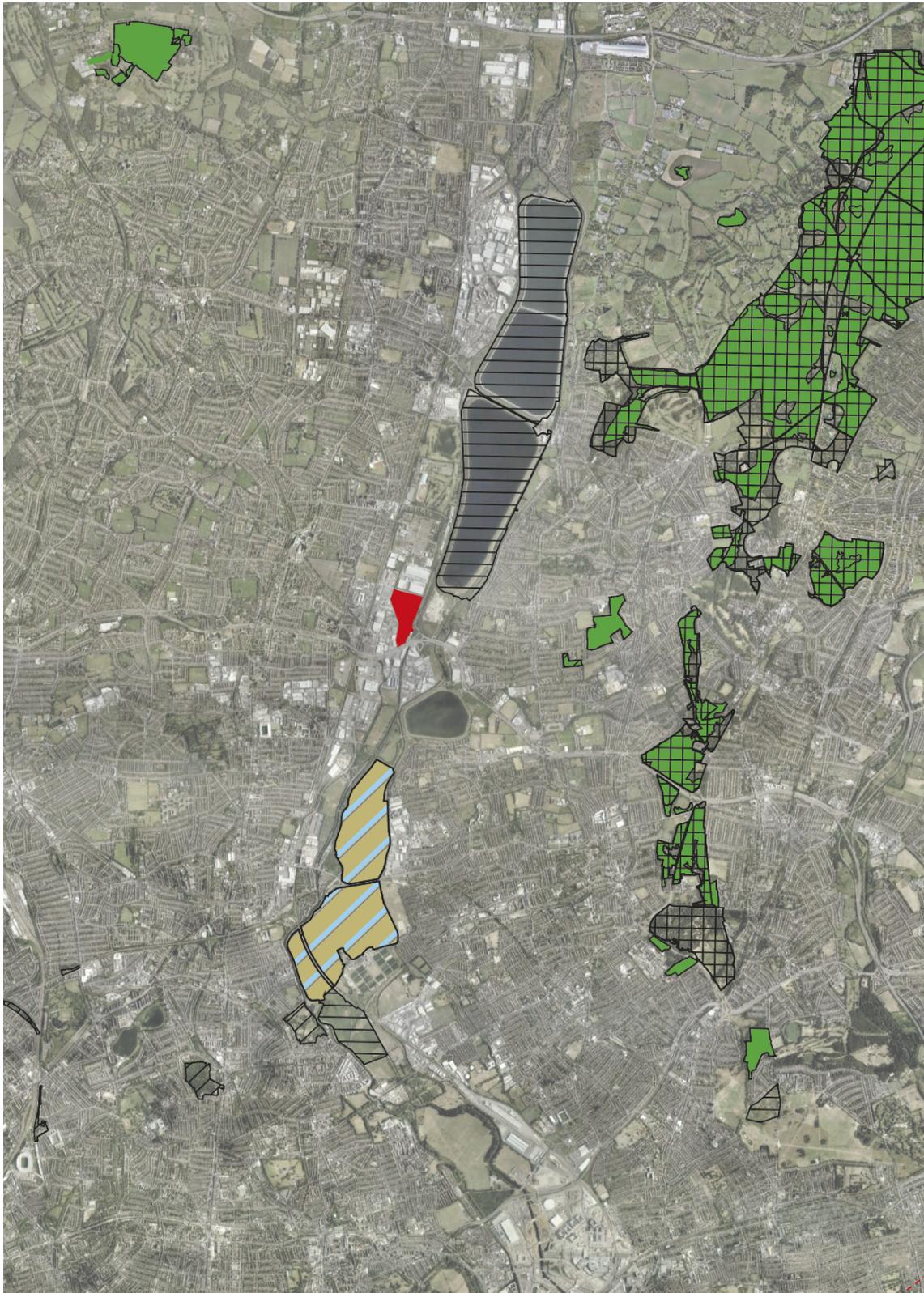


Figure 3.4 Environmental designations

3 Identifying Site Opportunities and Constraints



Figure 3.5 Photograph of William Girling Reservoir

Within the Lee Valley corridor, the EcoPark is located in the Central Leaside area, which is covered by an Area Action Plan and more detailed masterplan for the priority regeneration site, Meridian Water. In the future, employment uses will continue to play a major role in Central Leaside, but it is also intended that the range of businesses, jobs and homes will be broadened, public transport connections will be improved and the whole profile and image of the area will be enhanced. The proposed Meridian Water mixed use development site, which is a key catalyst for wider regeneration, lies to the south of the EcoPark on the other side of the North Circular Road. The Central Leaside area has good access to the North Circular Road; however this and other routes slice the neighbourhood into isolated segments. The area has particularly poor east –west permeability; the EcoPark being adjacent to the North Circular Road is therefore located on one of the key east – west crossing points where the Lee Valley is bridged between the major water bodies. This ‘bridge’ will be enhanced by the development of Meridian Water which will provide new east-west connections.



Figure 3.6 Location of the EcoPark in the LVRP

3 Identifying Site Opportunities and Constraints

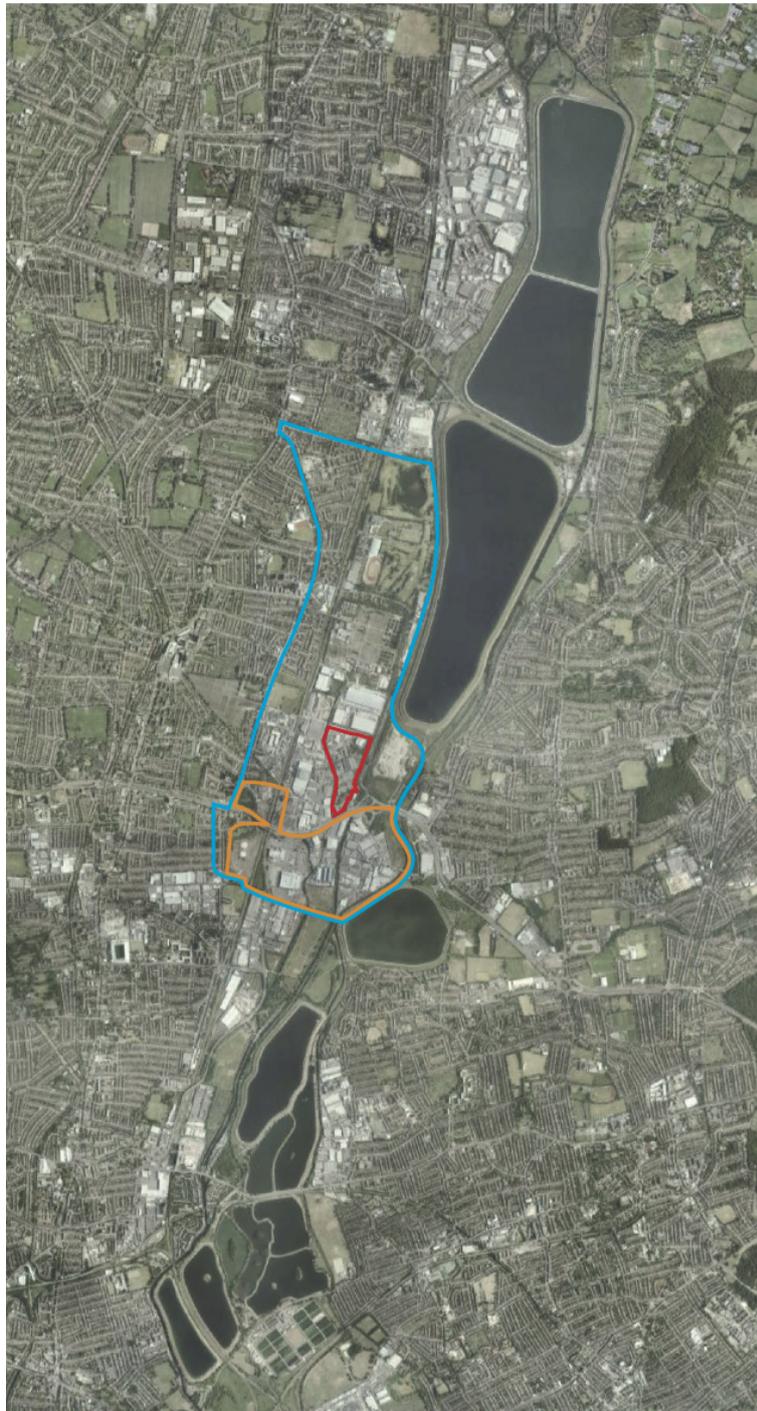


Figure 3.7 Location of the EcoPark within the Lee Valley corridor

Legend	
	Boundary of Central Leaside Area Action Plan
	Boundary of Meridian Water Masterplan
	Boundary of Edmonton EcoPark site

3 Identifying Site Opportunities and Constraints

3.4 Adjacent land uses

- 3.4.1** The western site boundary is formed by Salmon's Brook and commercial properties on the Eleys Industrial Estate. The northern boundary adjoins the Aztec 406 Industrial Park (formerly part of the Deephams site). Beyond this is the Deephams Sewage Treatment Works. The southern edge of the site is bound by Advent Way which provides direct access to the elevated North Circular Road.



Figure 3.8 Camden Aggregates site

- 3.4.2** To the east the site is bound by the Lee Navigation and Lee Park Way which provides access to nearby electricity pylons and also forms part of National Cycle Route 1. Beyond this is the Camden Aggregates concrete crushing and recycling business situated on land lying south of the William Girling Reservoir within the LVRP. Planning permission for the use of this site for the sorting and storage of aggregates is due to expire in approximately five years, after this time the site is likely to be reverted back to open space. The Camden Aggregates site currently shields the view of the EcoPark from the east and its removal may mean that the EcoPark becomes more visible. Figure 3.9 'Key edges and interfaces: residential, industrial and open space' illustrates the site's location in relation to key interfaces.

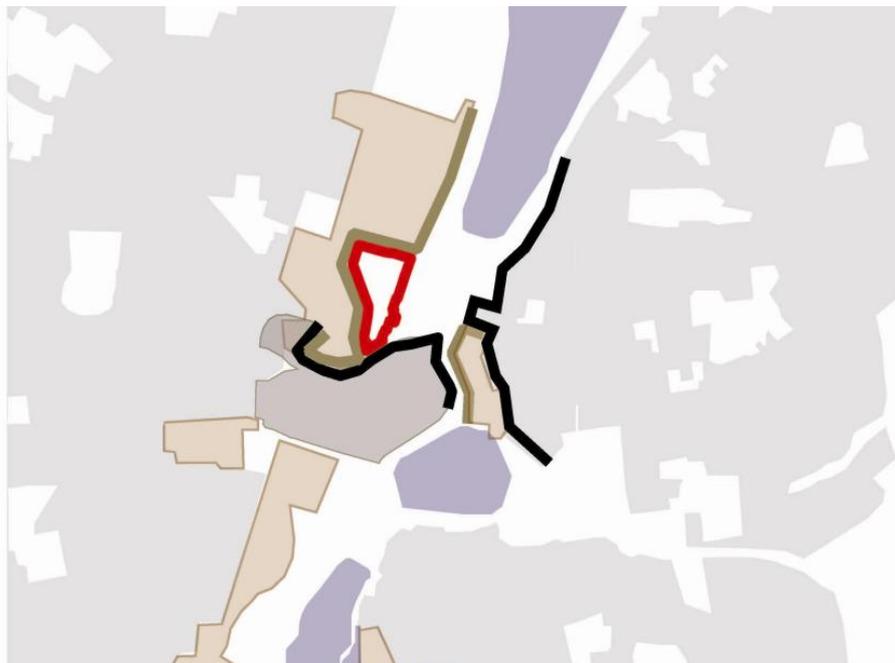


Figure 3.9 Key edges and interfaces: residential, industrial and open space

3 Identifying Site Opportunities and Constraints

3.4.3 The site’s location and the key implications of this are illustrated on Figure 3.10 'Immediate Site Context' below

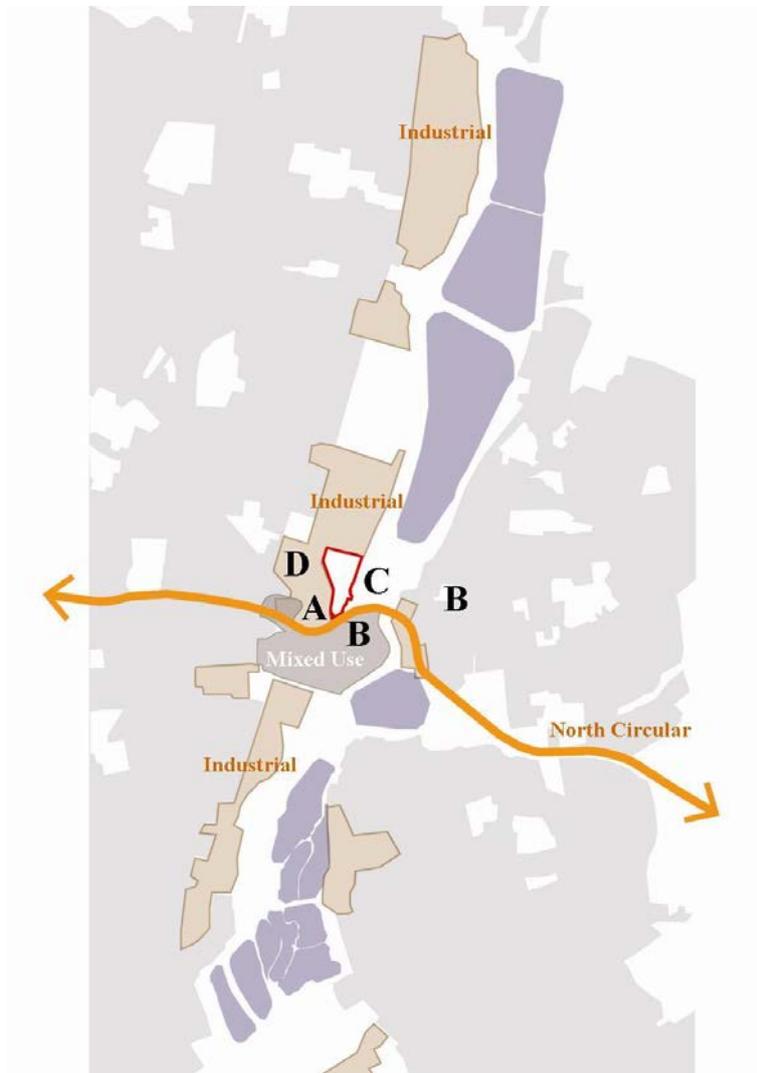


Figure 3.10 Immediate Site Context

<p>A: Adjacency to the North Circular</p>	<p>The site’s principal access is from the south. The North Circular forms a strong barrier between the site and the proposed Meridian Water development, however, the elevation of the North Circular provides vantage points to view into the site from the south.</p>
<p>B: Adjacencies to mixed use areas to the south and east</p>	<p>The future mixed use development at Meridian Water to the south creates an important adjacency for the EcoPark. The eastern edge of the EcoPark site in particular will be visible to the residential frontages facing the site on the other side of the LVRP and this visibility needs to be managed carefully.</p>
<p>C: Adjacency to the open space</p>	<p>The long eastern edge of the site is flanked by the Lee Navigation and adjacent to a site that is likely to revert back to public open space, which means that this edge is particularly sensitive. The footpath and connections north–south along this edge are important accessible routes, from where the presence and scale of the EcoPark will be particularly significant.</p>

3 Identifying Site Opportunities and Constraints

D: Industrial adjacencies to the north and west	The site forms a central part of the line of industrial facilities that fringe the western edge of the Lee Valley corridor at this point. The presence of existing larger format industrial buildings and infrastructure in the area may permit greater height and massing towards these boundaries. However, development also needs to take into account proximity to Salmon's Brook which lies between the western boundary of the site and the Eleys Industrial Estate.
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3.5 Wider regeneration context

3.5.1 The development of the EcoPark is set within the broader context of a number of regeneration projects which should be taken into account in future proposals for the site in order to ensure it integrates into the future social, economic and environmental fabric of the area.

3.5.2 The overarching principles of the wider regeneration programme, as set out in Section 1.2 of the Mayor of London's draft consultation Upper Lee Valley Opportunity Area Planning Framework (ULV OAPF) (2011), are as follows:

- Opening up the Lee Valley Regional Park
- Creating a new industrial geography and encouraging the growth of green industries
- Housing and mixed-use development in the growth areas
- New sustainable low carbon mixed-use communities
- Connecting existing communities to opportunities

3.5.3 The ULV OAPF supports the use and protection of the EcoPark as a waste management site. However, it identifies further potential which is the opportunity to establish a hub of green industries around Edmonton Eco Park.

3.5.4 Waste management operations and associated green industries have the potential to bring a number of economic benefits and contribute towards economic regeneration in Enfield and the wider Upper Lee Valley; including through direct job creation; opportunities for associated training/skills development; linked business operations involved in the re-use of waste by-products; and potential energy and heat generation.

3.5.5 Central Leaside is expected to play a crucial role as a driver and key focus for growth in this part of the Upper Lee Valley. The vision is to bring together public and private sectors to deliver an integrated part of Enfield which is an exciting, attractive and welcoming place to live, work, visit and invest within a unique setting in the Lee Valley. The key principles to deliver the vision for this area include:

- utilising a combination of regeneration and redevelopment potential;
- creating new homes;
- facilitating economic growth;
- enabling movement and improving transport connections;
- making better use of and creating attractive waterside spaces;
- building a strong and sustainable neighbourhood by providing range of shops, services, community facilities;
- improving access to healthy living corridors; and
- delivering sustainable regeneration to create socially, environmental and economically sustainable place.

3.5.6 The majority of Central Leaside is expected to retain its industrial and employment character and opportunities will be taken to extend the role of employment in the industrial estates and extend the employment offer to support new and emerging sectors such as green technology industries. Materials produced through recovery and recycling at the EcoPark could be used by reprocessing and manufacturing industries and therefore stimulate the development of and investment in green industries

3 Identifying Site Opportunities and Constraints

located in the wider Central Leaside area in the future. There is an aspiration for the Eleys Estate to be renewed and modernised. Estate managers are also currently consulting with occupiers on ways to improve access.

- 3.5.7** Meridian Water is one of the major redevelopment proposals in the area and is located to the south of the EcoPark the other side of the North Circular Road. Development in this area will create a new sustainable urban mixed use community containing in the region of 5,000 new homes and at least 3,000 new jobs with supporting social and community infrastructure.
- 3.5.8** The EcoPark, with 250 full time jobs, is already a major employer in this area. The development of the site should create additional jobs and reinforce the area's role as a Strategic Industrial Location. The creation of new jobs is particularly important in light of local deprivation and the new residential development which is planned for the Upper Lee Valley. Redevelopment of the Edmonton EcoPark would also provide an opportunity for the site to contribute to improving the quality of its industrial location it, but also the wider Central Leaside area.
- 3.5.9** In the neighbouring borough of Waltham Forest significant growth is planned at Blackhorse Lane which is approximately 3 miles to the south of the EcoPark. Up to 2,500 new homes and 1,000 new jobs are planned over the next 10-15 years. The London Borough of Waltham Forest is preparing an Area Action Plan to ensure development opportunities are co-ordinated to secure maximum community gains.
- 3.5.10** Significant growth is also planned in the London Borough of Haringey; specifically the borough is looking to achieve maximum local benefit from the major redevelopment and expansion of Tottenham Hotspur Football Club. Proposals include a new stadium, hotel, club shop, museum, supermarket and new homes.
- 3.5.11** The development of the EcoPark creates potential to stimulate wider investment and employment in related industries and as part of a green industries hub but also to supply local heat/energy to new developments as part of a heat network.

3.6 Existing site conditions

Visual impact

- 3.6.1** The site's current visibility is illustrated on below (see Figure 3.11 'Viewpoints'). The site is not generally overlooked by residential areas, but longer distance views exist from the east as the land rises out of the Lee Valley. The existing EfW stack is a prominent feature on the skyline from many viewpoints and this is recognised in the evidence report on the Location of Tall Buildings and Important Local Views in Enfield prepared to support Enfield's draft Development Management Document. The report notes that currently the existing EfW chimney stack is clearly visible in and significantly impacts on many views both within and across the Borough. The EcoPark is not within any of the important local views identified in the document.

3 Identifying Site Opportunities and Constraints



Figure 3.11 Viewpoints



Figure 3.12 View 01 - Chingford Mount



Figure 3.13 View 02 - South Chingford

3 Identifying Site Opportunities and Constraints



Figure 3.14 View 03 - North Circular Lee Valley Viaduct



Figure 3.15 View 04 - Eleys Industrial Estate



Figure 3.16 View 05 - Lee Navigation

Landscaping and ecology

- 3.6.2** The majority of the site comprises hardstanding and buildings, which are of limited landscape and ecological value.
- 3.6.3** The eastern site boundary comprises mature vegetation, with groups of alder, willow and poplar trees and scattered scrub along the Enfield ditch, and a grassed landscaped area with small ornamental pond within the site. The stands of trees and shrubs in this area are of potential value for common bird species for nesting and foraging purposes. This boundary provides an edge to the Lee Valley Regional Park and its future treatment should be sensitive to this.
- 3.6.4** The western boundary comprises Salmon's Brook and a strip of grass underneath which runs the Chingford Sewer. This boundary also has a few mature willows and grassed areas.
- 3.6.5** The southern boundary adjacent to the North Circular Road is characterised by overgrown scrub on the sides of the Enfield ditch and gently undulating grass mounds with small clumps of trees. The northern boundary has a thin belt of deciduous trees and scrub planting that creates a buffer between the site and the light industrial area beyond. Generally the site has low botanical diversity however future development should take opportunities to improve this.

3 Identifying Site Opportunities and Constraints

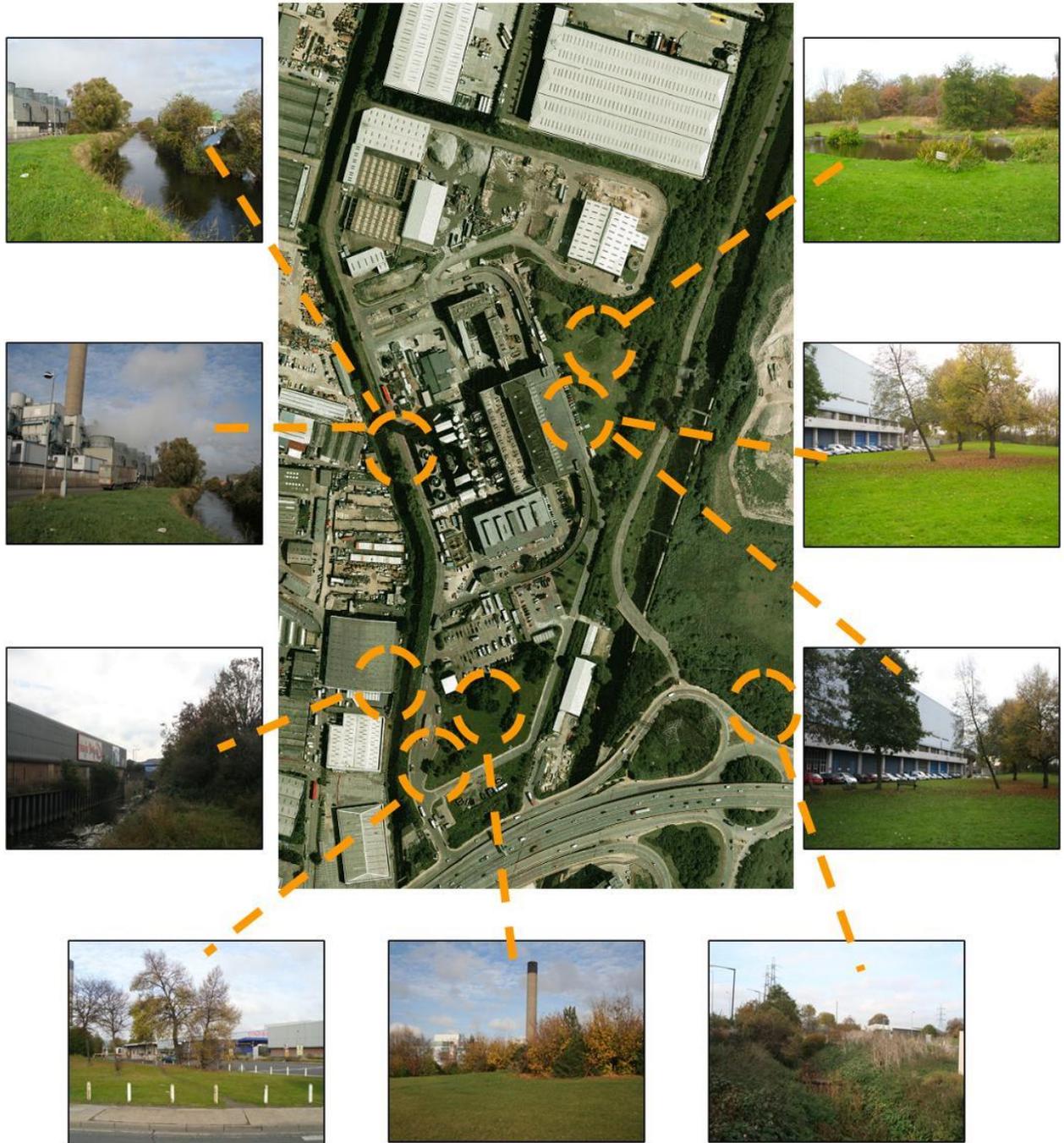


Figure 3.17 Site photographs

3 Identifying Site Opportunities and Constraints

Water resources and flood risk

3.6.6 There are three watercourses within and immediately adjacent to the site:

- Salmon's Brook watercourse runs along the western boundary of site. This is contained in steep (almost vertical) banks which are of limited ecological value. The Salmon's Brook is assessed as having poor biological quality and very high levels of Nitrates and Phosphates. The site abstracts water from Salmon's Brook to serve the EfW.
- The Lee Navigation is just outside the EcoPark boundary to the east. This has good chemical quality but poor ecological quality. The Lee Navigation is not used for the purposes of flood attenuation of the EcoPark.
- The Enfield ditch runs along the eastern edge of site, just outside the site boundary, before running along the southern edge of the site and discharging to Salmon's Brook. Some of the site's surface water runoff is discharged into the ditch.

3.6.7 Information held by the Environment Agency shows that parts of the site are at risk in the 1 in 100 year plus climate change flood event. However, recent flood modelling has demonstrated that the site is not at risk of flooding during such an event although it is predicted to be at risk in the 1 in 1000 year flood event ⁽⁵⁾. This modelling has not yet been endorsed by the Environment Agency (EA), and agreement from the EA is required before this modelling can be relied upon to support a planning application. Until which time development will need to compensate for any loss in flood storage.

Ground conditions

Geology

3.6.8 The geology of the site comprises Made Ground of variable thickness, alluvial deposits, Kempton Park Gravels, London Clay, Lambeth Group, Thanet Sands and the Upper Chalk. The Kempton Park Gravels, Lambeth Group and Thanet Sand are secondary aquifers; the chalk is a principal aquifer ⁽⁶⁾.

3.6.9 The London Clay, which affords some protection to the underlying Lambeth Group, is thinnest in the South-West of the site.

Contamination

3.6.10 Recent geotechnical and chemical testing comprising drilling and installation of 26 boreholes and 34 window samples, indicated that there is very little evidence of contamination at the site. With the exception of ammonium, no impact from contaminants was recorded in the Lambeth Group groundwater. Ammonium is considered to be from an off-site source to the north. Investigations also suggested that the London Clay may be acting as an effective barrier to vertical contaminant migration ⁽⁷⁾.

Groundwater

3.6.11 The site is located within an Environment Agency designated groundwater source protection zones 1 and 2 which protects a public water supply borehole some 500m from the site. The public water supply source abstracts groundwater from the Chalk aquifer. Risk assessment and mitigation measures for the protection of surface and groundwater quality will be required ⁽⁸⁾.

5 Amec, 2011, Edmonton Engineering Constraints – ISDS Stage

6 Amec, 2011, Edmonton Engineering Constraints – ISDS Stage

7 Amec, January 2012, ISDS Baseline Geo-environmental Draft Supplementary Investigation Report

8 Amec, 2011, Edmonton Engineering Constraints – ISDS Stage

3 Identifying Site Opportunities and Constraints



Figure 3.18 Source Protection Zones

Legend

- Zone II - Outer protection zone
- Zone I - Inner protection zone
- Abstraction - chalk
- Abstraction - tertiaries

Air quality and noise

- 3.6.12** Whilst situated in Enfield, the EcoPark is also in the vicinity of the LB Waltham Forest and the LB Haringey. All three Boroughs are designated Air Quality Management Areas due to concentrations of annual mean nitrogen dioxide (NO₂) and daily mean particulate matter (PM₁₀) breaching air quality objectives. The main source of these in Enfield is road traffic.
- 3.6.13** The nearest sensitive residential receptors are approximately 500-600m east of the site on Lower Hall Lane (in the LB Waltham Forest) beyond the Lee Valley Regional Park. Another residential area is located to the west of Montagu Road, which is approximately 600m west of the site boundary. In the future there will also be sensitive receptors to the south of the site in Meridian Water.

3 Identifying Site Opportunities and Constraints

- 3.6.14** The site is located within an area already dominated by a variety of different noise sources, including a mixture of light and heavy industrial uses on the site and the adjacent Eleys Industrial Estate; and a busy road network including the elevated section of the North Circular. Development of the EcoPark therefore needs to ensure no adverse impacts are created and aim to improve upon existing conditions. The noise during construction may also have an impact on nearby sensitive receptors, this issue needs to be considered and appropriate mitigation put in place to address this.

Transport infrastructure

Local highway network

- 3.6.15** The North Circular is the key route in the vicinity of the EcoPark. This forms part of the Transport for London Route Network (TLRN) and provides the main east to west connection across north London. Access from the EcoPark to the North Circular is via Advent Way.
- 3.6.16** While there is no direct access to the Strategic Road Network in the vicinity of the proposed site, it can be accessed to the west of the site, on the A10, and to the east of the site, on the A112. Both of these routes travel in a north to south direction.
- 3.6.17** The existing traffic conditions in the local area have been identified from surveys carried out in November 2011. This is discussed further below.
- 3.6.18** The EcoPark is not connected to the rail network and currently all deliveries are made by road. The EcoPark currently provides parking for 211 cars or vans and all spaces are provided at grade.

Public transport, pedestrian and cycle network

- 3.6.19** The site is poorly connected to the public transport network. The closest London Underground station is Tottenham Hale which is over 3km to the south. National Rail services are available at Angel Road station, located approximately 950m to the west; however, services to this station are very infrequent, for example in the evening peak hour only two trains operate in each direction.
- 3.6.20** There are two London Bus routes operating in close proximity; Routes 34 and 444. The bus stops for these are almost 500m walking distance from the EcoPark and this is exacerbated by the inhospitable nature of the roads and footpaths surrounding the site.
- 3.6.21** The public transport network can be assessed in terms of Public Transport Accessibility Level ⁽⁹⁾. The PTAL level of the EcoPark is 1b which is 'Very Poor'. Consequently the vast majority of staff travel to the EcoPark by car.
- 3.6.22** Pedestrian facilities are provided within the immediate vicinity of the EcoPark, however the footway widths are narrow and are overgrown with vegetation in places. The pedestrian environment is generally inhospitable and the quality of the environment is reduced by noise associated with high traffic flows on the North Circular Road. The North Circular also acts as a barrier to pedestrian movements. Pedestrian connections to local bus stops are particularly poor. The Lee Navigation towpath provides a step-free route under the North Circular Road.
- 3.6.23** There are a number of cycle routes within the vicinity of the EcoPark, along the Lee Valley Navigation, an off-carriageway route adjacent to the North Circular Road to the east of the EcoPark and along Advent Way to the west; and an off-carriageway route in a north to south direction along Meridian Way both to the north and south of the North Circular. However wayfinding on these routes can be challenging.
- 3.6.24** The Council is developing a Greenway network providing easily accessible and continuous cycle routes within the Borough. One potential option is to provide a Greenway running along the southern boundary of the EcoPark, next to Advent Way.

9 this PTAL method scores a geographical location on its distance to a public transport interchange link

3 Identifying Site Opportunities and Constraints

Water transport

- 3.6.25** The site contains a wharf on the Lee Navigation which is currently occupied by a training centre for the Edmonton Sea Cadets Corps. Previous feasibility studies have indicated that, subject to modification, the wharf is capable of accommodating the transportation of materials to or from the EcoPark in the future.
- 3.6.26** The site, surrounding area and local transport facilities are shown on Figure 3.19 'Existing Transport Infrastructure' below.



Figure 3.19 Existing Transport Infrastructure

3 Identifying Site Opportunities and Constraints

Legend

- Site
- ⊖ London bus stops
- ≡ National Rail stations
- Bus routes
- Cycle routes
- Pedestrian routes
- Lee Valley walk

Existing Traffic Conditions

- 3.6.27** In order to ascertain the volume of traffic using the highway network in the vicinity of the EcoPark, a number of traffic surveys were undertaken in November 2011.
- 3.6.28** The traffic surveys identified that the peak traffic flows on the North Circular Road in both directions are at approximately 07:00 to 08:00 and 16:00 to 19:00 with a relatively consistently high volume of traffic between these times. Approximately 25% of vehicles travelling in the eastbound direction and 45% in the westbound direction are heavy goods vehicles (HGV) or medium goods vehicle (MGVs).
- 3.6.29** The daily traffic flows into and out of the EcoPark are shown in Figure 3.20 'Existing Vehicle Flows' below. This shows a clear peak in vehicle arrivals between 11:00 and 14:00. On average just over 1,000 vehicles currently visit the EcoPark each day (1,044 in / 1,044 out).

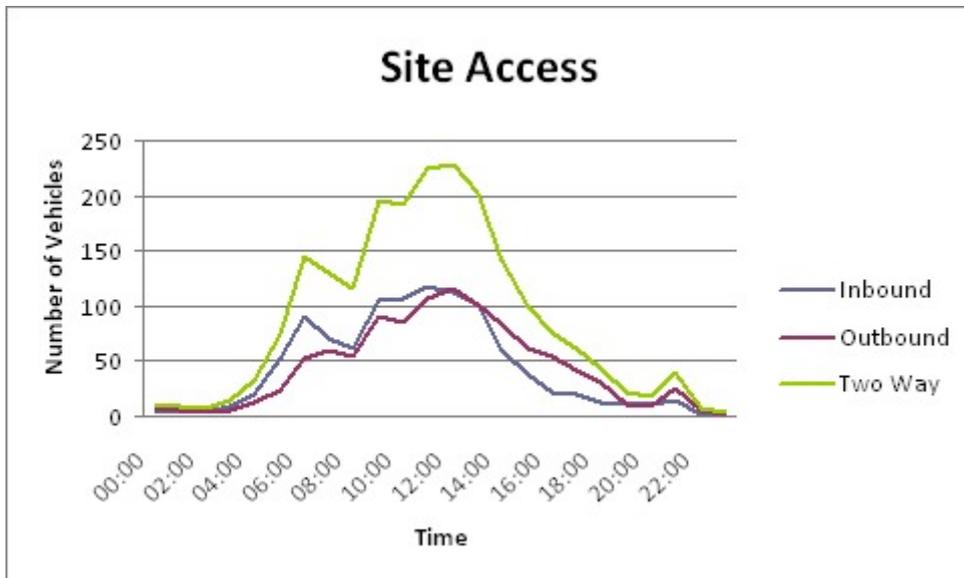


Figure 3.20 Existing Vehicle Flows

- 3.6.30** The majority of vehicles entering the site (276 vehicles per day) are delivering bulky waste. The other significant deliveries of material to the site are residual waste from the Boroughs (145 vehicles per day) and green waste (24 vehicles per day). Given the EcoPark’s position towards the east of the north London area the majority of the trips approach the site from the west via the North Circular Road, only waste from Hackney and Waltham Forest, approximately 26% of the total municipal waste received, approaches the EcoPark from the east. Enfield and the adjoining boroughs (Hackney, Haringey and Waltham Forest) deliver some if not all waste directly to the EcoPark following collection. Barnet, Camden and Islington currently send all waste to Hornsey Street transfer station where it is bulked before being delivered to the EcoPark in fewer, larger vehicles.

3 Identifying Site Opportunities and Constraints

- 3.6.31** The approved route to the EcoPark is from the east via Advent Way; however there is anecdotal evidence that vehicles are approaching/departing the site from the west through the private Eleys Industrial Estate. This route is not suitable or permitted for HGVs travelling/making deliveries to Edmonton EcoPark.

Road Capacities

- 3.6.32** The local highway network currently accommodates the existing traffic with a variable amount of remaining capacity. The North Circular Eastbound On-slip and Westbound Off-Slips at the junction of the North Circular and Meridian Way are both approaching capacity; it has been calculated that the current use of these is respectively 7% and 4% below the theoretical maximum capacity.
- 3.6.33** It is understood that neither of these junctions are regularly used by vehicles travelling to or from the EcoPark. Only vehicles leaving the EcoPark and heading west on the North Circular for one junction might use the North Circular West Bound Off-Slip in order to head north or south on Meridian Way. Vehicles travelling the reverse of this route to access the EcoPark might use the North Circular On-slip East Bound.
- 3.6.34** Significant new development is planned in the area, including Meridian Water and Tottenham Hale. The ULV OAPF recognises that a growth in population of 24% and in employment of 20% between 2007 and 2031 in the ULV will generate a large number of additional trips to, from and within the Lee Valley, especially during peak times. At some junctions in the ULV the level of traffic within the opportunity area exceeds planned network capacity; this includes Montagu Road/Conduit Lane, as discussed in Chapter 4. The ULV OAPF notes that with no interventions beyond what is currently committed, the opportunity area would experience an overall increase in trips of 14% by 2021 but that this growth can largely be accommodated by the existing network (Section 3.5, ULV OAPF). However, by 2031 there will be an overall increase in trips of 22% and growth will not be adequately supported by the existing highway network. The ULV OAPF modelling does not include the potential for additional traffic movements as part of future development at Edmonton EcoPark.

Site infrastructure, services and utilities

Utilities

- 3.6.35** The EcoPark contains a significant number of services and utilities required for its operation. Currently the most significant requirements are for the EfW which has a substantial electrical installation. The site also contains a complex network of underground sewers, gas mains, telecoms, and electricity mains. Of particular note is the Chingford Sewer which crosses the site from the south east corner and runs in the verge next to Salmon's Brook to the northern end of the site ⁽¹⁰⁾.

Water Supply and Drainage

- 3.6.36** The site obtains its water supply from both abstraction from Salmon's Brook and using a clean water supply from the local distribution network owned and operated by Thames Water. The EfW is served by raw water extracted from the Salmon's Brook which is pumped from an offsite pumping facility to the north. The clean water supply connection point is at Advent Way ⁽¹¹⁾.

Off site and third party Infrastructure

- 3.6.37** In addition to utility infrastructure required to service the site, a number of third parties manage assets within the site; EDF Energy has a substation close to the southern weighbridge; British Gas has a gas pipe running under the southern end of the site and Thames Water manage a water pipe running next to Salmon's Brook. The Chingford Sewer is also located in this area.

10 Entec, 2011, ISDS Baseline Geo-environmental Site Investigation Report

11 Amec, 2011, Edmonton Engineering Constraints – ISDS Stage

3 Identifying Site Opportunities and Constraints

- 3.6.38** The EcoPark is also in proximity to high risk public infrastructure such as high voltage overhead cables, high pressure gas mains, large sewers and other critical underground service. Most notably there is a high voltage electricity route to the east of the site, and the pylons which line the Lee Navigation dominate the landscape. National Grid is proposing to upgrade the voltage of these lines from 275kV wires with 400kV wires by replacing the cables ⁽¹²⁾.

3.7 Summary of site analysis

- 3.7.1** Overall the site operates well as a waste management facility however there are a number of existing features which currently constrain the operation of the site. There are also a number of opportunities for the future development of the site. The key opportunities and constraints are illustrated on Figure 3.21 'Site opportunities and constraints' overleaf.

3 Identifying Site Opportunities and Constraints

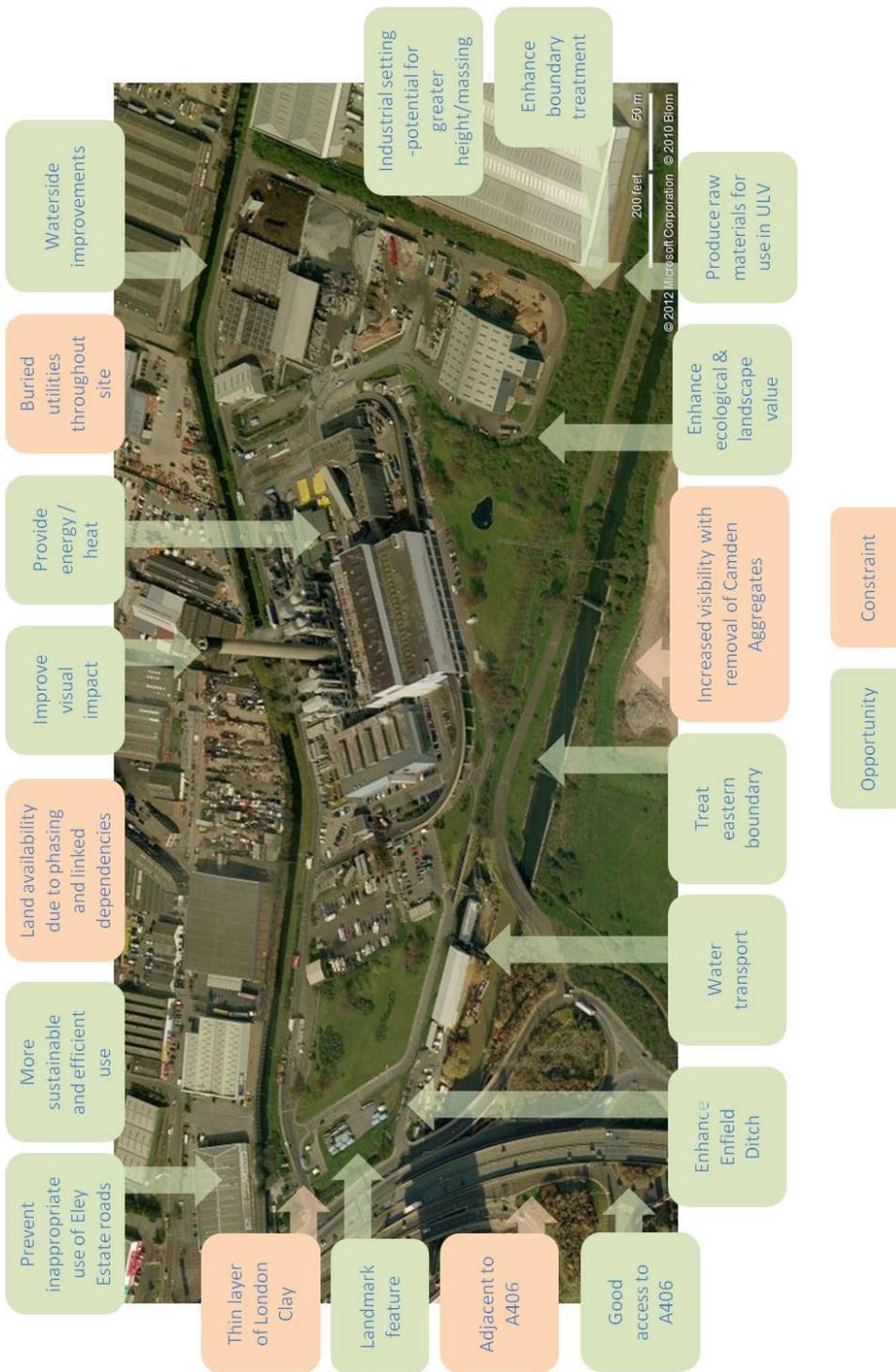


Figure 3.21 Site opportunities and constraints

3 Identifying Site Opportunities and Constraints

4 Principles for future development of the EcoPark

4 Principles for future development of the EcoPark

4.0.1 The analysis of the site's opportunities and constraints in the Chapter 3 has informed a number of principles for the future development of the site. These principles can either be classified as Drivers of Change or Development Responses as set out below.

4.1 Drivers of change

Sustainable treatment of waste

4.1.1 The EcoPark must provide enhanced and sustainable waste treatment facilities to meet the future waste management needs of north London's residents as part of a network of waste management sites.

4.1.2 Following waste minimisation activities, any residual waste treated at waste sites should prioritise recycling and energy recovery. In the case of the EcoPark, the expectation is that the balance of treatment will shift towards more recycling and fuel production, and that future energy/heat generation which is surplus to the development's own needs will maximise carbon benefit through the supply of heat and power to local energy networks. The most advanced waste technologies should be employed in order to minimise any environmental impacts associated with these forms of treatment.

4.1.3 In accordance with the proximity principle and to contribute towards self sufficiency, any new facilities will be expected to receive waste arisings sourced within an appropriate catchment area to reduce the distance travelled. Any catchment areas would be defined to ensure that new waste facilities meet the needs of the local area and could fulfil Local Plan objectives.

Decentralised energy

4.1.4 The Upper Lee Valley Decentralised Energy (ULV DEN) Feasibility Study identifies the potential for the EcoPark site to provide a low carbon supply of heat for the Lee Valley Heat Network (LVHN). The Study outlines a 'core network' or first phase configuration for the LVHN. The core network comprises a heat network originating from the EcoPark site supplying low temperature hot water (LTHW) and a steam supply to a range of sites in the Lee Valley.

4.1.5 Heat/energy can be supplied by the existing EfW facility connected via an energy centre to the LVHN and, during and following decommissioning of the EfW, a supply of heat/energy can be provided by alternative boilers located in the energy centre. Based on an understanding of the current operations at the site, a supply of at least 15MWth of energy is achievable. The Study therefore recommends this as a minimum output for Edmonton EcoPark. To service the anticipated demand and use of the energy network, the 15MWth could be made up of at least 3MWth steam (at suitable temperatures and pressures), and the remainder as LTHW.

4.1.6 The plant proposed in the Study to serve the 'core network' is based around a 15MWth steam offtake connection from the EfW facility; top-up and standby gas-fired (or dual fuel) boilers of 60MWth capacity; an interim 5MWth biomass (woodchip) boiler; thermal storage vessels (approx 400m³ capacity); an energy centre to accommodate all of the operational equipment; and all typical ancillary plant.

4.1.7 To facilitate the delivery of the LVHN, proposals for the EcoPark site must incorporate space for an energy centre, a connection from sources of energy/heat into the energy centre, and both steam and LTHW pipe network leaving the site, having regard to meeting the technical specification for the LVHN including the minimum allowances for energy /heat output, and the requirement for operational and ancillary plant equipment. The Council will support development which enables existing heat/energy from the EfW to be captured and connected to the LVHN prior to decommissioning and the supply from alternative boilers to be maintained thereafter. Any significant modifications to the existing facility will be required to make such a connection, and maintain sufficient supply.

4 Principles for future development of the EcoPark

- 4.1.8** In future, should plot 1 (the EfW site) be redeveloped, the Council would expect any new development to provide a sustainable, low carbon and ongoing heat source for and, maintain a connection to, the LVHN. The development would be expected to meet, as a minimum, the allowances for energy/heat output recommended in the ULV DEN Feasibility Study or, any future allowances updated through any subsequent or superseding evidence base/analysis.
- 4.1.9** The ULV DEN Feasibility Study suggests that the energy centre could be developed over two phases and that 1,300m² (e.g. 50m by 26m) of land would be required to develop this facility. The energy centre will need to accommodate all necessary operational facilities as well as back up provision to ensure continuity of supply. Such requirements might, for example, include car parking, alternative boilers. The study concludes that Plot 1 (the EfW site) is suitable as the location for the heat network energy centre; however, this planning brief is not intended to be prescriptive about the location of the energy centre within the site boundary, which will be a matter for detailed design. The actual dimensions of the energy centre would also depend on the detailed design solution of that facility.
- 4.1.10** Routes for the LVHN pipe network must also be safeguarded to enable the network to connect to potential customers to the north, west and south of the EcoPark site. The Feasibility Study suggests that a spatial provision of a 2.5m corridor should be allowed for the routing of pipe from the turbine hall to the energy centre. Any safeguarded route for the LTHW is likely to include a route under the existing access road to the main entrance at Advent way. There is also the option to cross over Salmon's Book directly into the adjacent Eleys Industrial Estate. The safeguarded steam route is likely to run under or alongside the existing access road northwards to the currently unused secondary access point on the northern boundary. Detailed safeguarding routes and the location for an energy centre should be agreed with the Council as part of pre-application discussions.
- 4.1.11** The existing EfW stack has a significant visual impact on the Central Leaside area and a more limited impact on other parts of the wider Upper Lee Valley. Heat generating waste treatment technologies that could be employed at the site in the future have the potential for emissions to air and as such are likely to require a stack to ensure that Environment Agency prescribed limits are met. Should a new stack be required in order to enable heat to be produced at the site, its height would be determined by the statutory standards but it must also be of a high design quality. A creative design could be used which effectively combines function and form to help address the visual impact of such development on the local landscape. Innovative design solutions should be used to ensure that all statutory standards are met without compromising on aesthetic quality. It is also expected that any future stack will be narrower than the existing stack.
- 4.1.12** An example is illustrated in Figure 4.1 'Waste to energy stack at Lakeside, Colnbrook (copyright: Arup)' below

4 Principles for future development of the EcoPark



Figure 4.1 Waste to energy stack at Lakeside, Colnbrook (copyright: Arup)

4 Principles for future development of the EcoPark

Regulatory requirements

- 4.1.13** The EcoPark must be designed to comply with all regulations governing environmental performance including emissions to air and water, and nuisance risks such as noise and odour in order to protect the amenity of local residents and the natural environment. The exact nature of the measures employed would depend on the chosen technology and detailed design.

Green industry employment

- 4.1.14** By shifting towards new waste management technologies, the EcoPark would help to meet the changing needs of the economy; an objective which is supported by the GLA's Industrial Capacity Supplementary Planning Guidance and London Plan. The EcoPark can help to expand the 'green' business sector through both direct local employment and training opportunities on site in sustainable waste treatment. There are also associated off site opportunities such as the construction and maintenance of energy infrastructure associated with the LVHN, and the local use and reprocessing of recycled materials generated at the EcoPark site by other businesses in the waste sector. This supports the vision in the Central Leaside Area Action Plan which seeks to broaden the employment and skills base. Although waste management roles are generally low skilled, there is a growing number of higher skilled jobs which might attract new residents to the area.
- 4.1.15** More broadly the site, and the co-location of complementary activities around the EcoPark site, could become a focus for the creation of a green industrial hub which would support the Upper Lee Valley Opportunity Area Planning Framework (ULV OAPF) vision to create over 15,000 new jobs by 2031 across a range of industries. Also the potential to facilitate a wider decentralised energy network in the Upper Lee Valley, has the added benefit of providing low-carbon, cost-competitive heat to all business sectors benefiting from such a connection, including green industries, and could help stimulate and attract inward investment.

4.2 Development response

Transport

Mitigate traffic congestion

- 4.2.1** The future development of the site must incorporate measures to mitigate transport impacts. Initial traffic modelling has indicated that the development of the EcoPark will not result in a significant increase in the number of vehicle movements. However, any future planning application will need to be accompanied by a full Transport Assessment which sets out the transport, traffic, accessibility and sustainability issues relating to the development and demonstrates that it would not result in an adverse transport impact, taking into account future development in the area. The scope of the Transport Assessment is discussed in more detail at paragraph 5.2.7.
- 4.2.2** Measures should also be put in place to ensure that vehicles arrive at and depart from the EcoPark using the permitted route via the eastern end of Advent Way, such as signage, driver training and periodic auditing. Vehicles should be prohibited from accessing the site through the Eleys Industrial Estate.
- 4.2.3** Any mitigation measures will be developed in response to the detailed proposals for the site. These might include optimising the number of arrivals and departures to and from the site to be outside the peak hours of the local highway network, sound traffic management, bulking of materials and water transport.

4 Principles for future development of the EcoPark



Figure 4.2 Existing Wharf



Figure 4.3 Lee Navigation and Wharf

On-site transport measures

- 4.2.4** The internal configuration of roads should provide a safe and efficient route for vehicles to access all facilities without the need for queuing outside the site boundary.
- 4.2.5** The internal layout should also seek to mitigate noise impacts across the site, and particularly along the eastern boundary of the site adjacent to the Lee Valley Regional Park (LVRP). Specific measures may be required to limit noise and visual impacts; such as the enclosure of noisy activities and suitable acoustics screens. These could be designed to blend in with local landscape through selection of suitable materials, green walls, or the use of other types of planting in front of them.

Water Transport

- 4.2.6** The Edmonton EcoPark site offers a very unique opportunity; its close proximity to the River Lee Navigation and access to a wharf means that there is significant potential for this site to make use of water based transport. Waste is a transport intensive use, therefore the all development proposals should seek to make use of water transport to reduce the number of vehicle trips and therefore minimise the negative environmental impacts of road based transport. Future development should safeguard the wharf area so that a Freight by Water scheme can be implemented or to ensure its future delivery is not prejudiced.
- 4.2.7** Preliminary analysis has indicated that the transport of Solid Recovered Fuel (SRF) from the EcoPark via the River Lee Navigation and the tidal River Thames is technically feasible and environmentally beneficial and the Council, along with the NLWA, is committed to using water to transport materials to or from the site in the future where it can also be shown to be viable.
- 4.2.8** The NLWA commissioned a Pre-Feasibility Study of the Waterway Transport of Solid Recovered Fuel from Edmonton EcoPark⁽¹³⁾. The study found that SRF produced at the EcoPark could be accommodated on the River Lee and the route to the tidal River Thames, if waste was pelletised to increase density. For waste in floc form at a density of 0.12t/m³, night time working would probably be required and it is uncertain whether the number of barges required could be accommodated through Bow Locks. The existing Wharf would need to be modified to accommodate this. Furthermore the study found that there are realistically economic options for the transport of SRF from Edmonton by waterway to sites on the River Lee or the tidal River Thames.
- 4.2.9** However, the study also notes that there have been various studies in the past concerning carriage of waste (and other cargoes) on the River Lee and none of the opportunities has so far come to fruition and a number of challenges have been encountered. These problems generally relate to loading and unloading issues and constraints at particular sites, rather than the transport of the cargo along the

4 Principles for future development of the EcoPark

waterway. More recently, a Feasibility Study into the viability of transporting freight by water has been commissioned by the Council along with partners, the North London Waste Authority and Canal and River Trust. The Feasibility Study will specifically focus on the potential use of the River Lee Navigation for the movement of freight to and from the Edmonton EcoPark, and advise on the following:

- the potential technical feasibility for the movement of waste arising from the Edmonton EcoPark by water and rail and the potential and likelihood of movement of other waste materials to the site.
- an overarching strategy for movement of freight by water
- the infrastructure required – including wharfage, operational infrastructure e.g. containers and barges
- the environmental benefits in terms of carbon dioxide savings through the use of the water and rail
- the cost implications of moving waste materials by water; and
- recommendations for future delivery/implementation

4.2.10 Any findings from this work will help inform the future delivery/implementation of waterborne transport. The Council will require future development to explore and take forward opportunities for water transport.

4.2.11 The enhancement of the EcoPark wharf to support regular freight movements could involve extension of the wharf, excavation of bays oriented perpendicular or diagonally to the river, and construction of fixed cranes and other lifting and transport apparatus. Such developments should consider carefully the potential visual and ecological impacts from development adjacent to and within the Lee Valley Park and Green Belt context. In addition, any infrastructure required must be designed so it does not increase flood risk off or on site.

Other Sustainable Transport Measures

4.2.12 Waste treatment sites such as the EcoPark generate a considerable number of vehicle movements, many of which are by a fleet of vehicles owned by the local authority. There is therefore the potential to explore the use of alternative fuels and electric vehicles to reduce carbon dioxide emissions from transport. This will need to be considered as part of the future development of the site, particularly if the future use of the site generates more vehicle movements than the existing situation.

4.2.13 Any future planning application should include a Travel Plan, to be periodically monitored by the Council, detailing measures to promote sustainable transport for staff, including walking and cycling. At present approximately 90% of EcoPark employees travel to work by car and future development of the site should seek to reduce this by facilitating alternative sustainable modes of transport.

4.2.14 Development should also seek to complement wider connectivity improvements. These might include improvements to east-west routes, improving and enhancing the design of the pedestrian route under the North Circular Road to Meridian Water, contributions to help advance the local Greenway cycle networks, and improving pedestrian links to Angel Road Station as illustrated on Figure 4.4 'Connectivity Enhancements'. Developer should also consider opportunities to improve the local greenway network.

4.2.15 Developers should have regard to best practice in terms of freight, delivery and servicing movements, and have regard to the Freight Operators Recognition Scheme (FORS), and Freight Quality Partnerships.

4 Principles for future development of the EcoPark



Figure 4.4 Connectivity Enhancements



Figure 4.5 Pedestrian links



Figure 4.6 Pedestrian links



Figure 4.7 Pedestrian links

4 Principles for future development of the EcoPark

Design

High quality of design

- 4.2.16** The development of the EcoPark must use a design-led approach to provide a distinctive and well functioning environment with a high quality of design, materials and finish, and demonstrate this through the submission of a Design and Access Statement. The design should be developed in accordance with the principles of good design set out in the emerging Development Management Document and should also have regard to best practice guidance such as Designing waste facilities – a guide to modern design in waste ⁽¹⁴⁾ and Rubbish in- resources out – Design ideas for waste facilities in London ⁽¹⁵⁾. Developers are encouraged to discuss their design proposals with the Council prior to the formal submission of a planning application. Design panels such as Urban Design London or the CABI Design Review Service are a useful appraisal mechanism and will be encouraged if appropriate.
- 4.2.17** Future development of the Edmonton EcoPark should consider any impacts on the historic environment, for example, visual impacts on the surrounding listed buildings and conservation area as part of their settings, or impacts on deposits in the Lea Valley West Bank Archaeological Priority Area. Developers must identify, and provide appropriate assessment/ investigation of, any heritage assets affected so that potential impacts can be assessed as part of the planning application.
- 4.2.18** It is expected that the majority of existing buildings on site will be replaced. If any building or structures are to be retained they must be significantly upgraded and incorporate high quality architectural treatment.
- 4.2.19** Future development should be designed to tie in with wider opportunities to improve the appearance, access and environmental quality of industrial estates in the Central Leaside area to promote them as locations of choice for cleaner and modern industries. The Council will be working with partners and the Greater London Authority (GLA) to develop an Industrial Estate Renewal Strategy to take this objective forward.

Southern end of the site

- 4.2.20** The southern end of the site is highly visible from the elevated section of the North Circular Road and therefore particular attention should be paid to the design of any structure located in this area. The relationship of any structure in this area to a stack which may be located in Plot 1 will need to be understood.
- 4.2.21** The visibility of this end of the site could be used to relate the EcoPark to the Meridian Water development, Central Leaside and the wider urban context of north London with long views from the elevated North Circular and at the same time generate identity, presence and publicity for the EcoPark. Treatment of the southern end in a highly visible way could also enable the wayfinding and orientation of the EcoPark to be established. Proposals should consider how any design may impact on vehicles travelling on the North Circular Road and should not create a safety risk.

14 Defra and CABI, 2008

15 GLA, Arup and Dow Jones, 2008

4 Principles for future development of the EcoPark

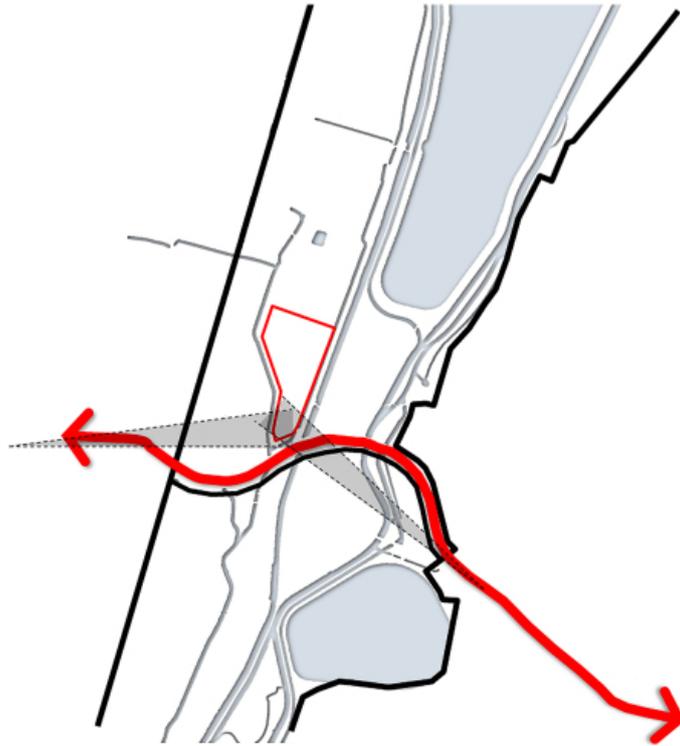


Figure 4.8 View corridors from North Circular

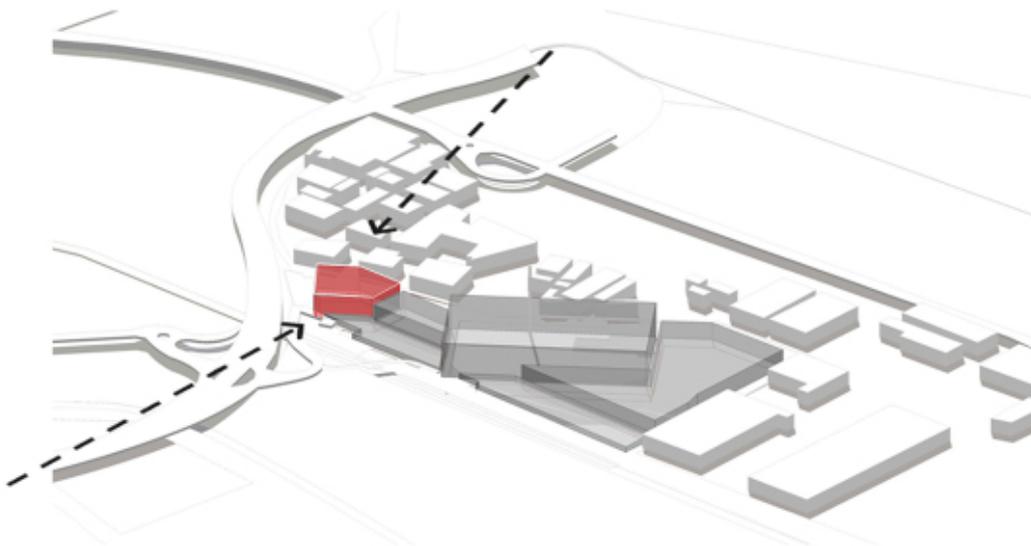


Figure 4.9 Location of potential landmark feature

4 Principles for future development of the EcoPark

Height and massing

- 4.2.22** Design responses for the site should consider the different emphasis of height and massing, given the site's context, adjacencies and sensitivities. The location of the EcoPark adjacent to industrial sites to the north and west should be exploited to accommodate the main building masses within the heart of the site, as illustrated in Figure 4.10 'Main massing'.

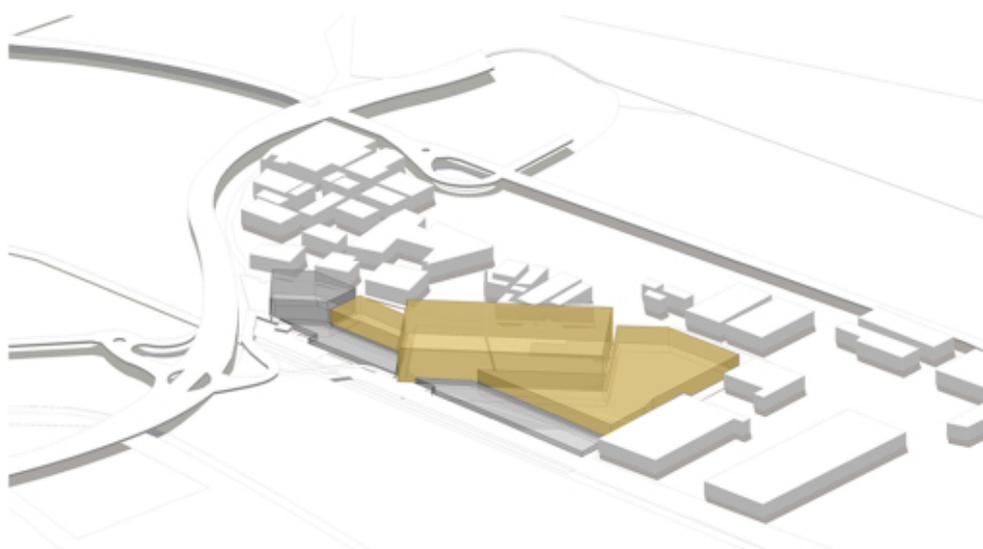


Figure 4.10 Main massing

- 4.2.23** The existing EfW parcel (Plot 1) must be reserved for redevelopment up to an equivalent scale and extent if it is to accommodate a future waste treatment which also generates heat, however the diameter of any potential stack associated with this is expected to be narrower than the existing stack. The main massing should also be set back from the eastern edge due to the boundary with the LVRP. The overall massing envelope therefore could comprise a landmark presence to the south, with lower massing along the eastern edge and the main massing in the centre and west. The following figures set out guidelines for massing which may be interpreted as flexible envelopes for future development. Any height/scale could be exploited to create a focal point to the LVRP. This could be treated as a way of creating views into the site or creating a further landmark along the Lee Valley corridor at this point, further marking the presence of the EcoPark. However, this aspect of the design needs to be balanced against the sensitivity of adjacent green belt.
- 4.2.24** In accordance with the London Plan and Development Management Document, proposals for large scale and tall buildings should not adversely impact on their surroundings. To assess any impacts, applications will need to include a detailed urban design analysis and accompanying visual representation of the proposal showing how it responds to, and impacts upon, its context. Additionally, the proposals should demonstrate how the principles of inclusive design have been integrated into the design.
- 4.2.25** As far as possible plant and equipment used at the EcoPark should be enclosed to reduce visual impact, noise, air quality and odour impacts.

4 Principles for future development of the EcoPark

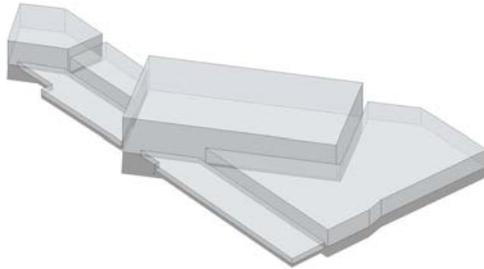


Figure 4.11 Guideline for massing

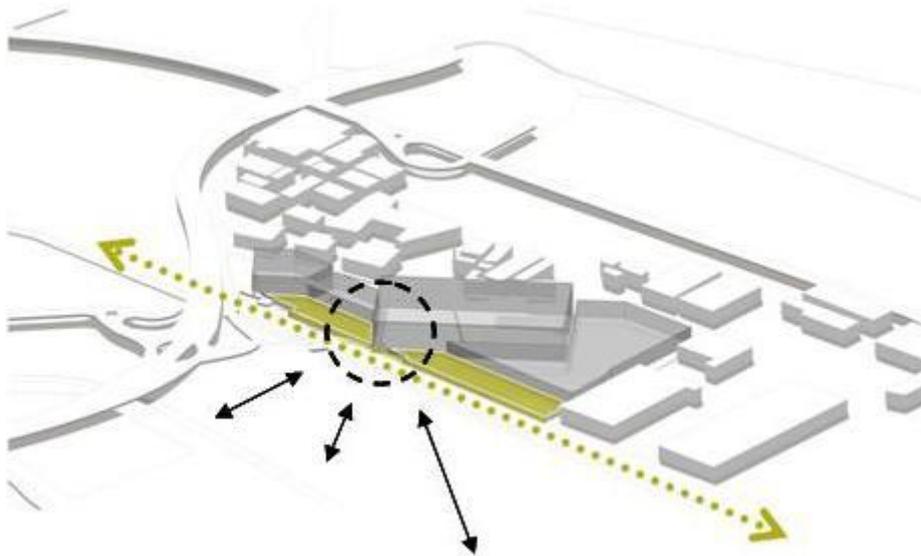


Figure 4.12 Potential focal point on the Eastern Edge

Sustainable Design and Construction

Greening and biodiversity across the site

- 4.2.26** The future development of the site must take into consideration the visibility of the EcoPark from the Lee Valley Regional Park. This is particularly relevant given the removal of the Camden Aggregates site which may increase visibility from across the Lee Valley corridor.
- 4.2.27** The EcoPark is particularly visible from the Lee Navigation towpath. This footpath and cycleway is a key green link along the Lee Valley and will be an important connection to Meridian Water. The treatment of the eastern edge should enhance the walking and cycling environment.

4 Principles for future development of the EcoPark

- 4.2.28** Future development at the site should contribute to wider landscaping and habitat enhancements; and incorporate a range of measures to achieve this objective such as considered planting across the site, and providing green roofs and/or living walls. The ULV OAPF recognises that this area is a “pinch point” in the LVRP and seeks to bind the valley’s natural and urban assets into a single valley space that connects to the spaces beyond. Therefore, the plant species used should be locally appropriate and tie in with the existing flora and fauna of the LVRP. The design of green roofs, boundaries and other enhancements at the EcoPark will need to have regard to Enfield’s Biodiversity Action Plan and will be required to enhance wildlife and green corridors to the wider Central Leaside area as illustrated in Figure 4.13 'Greening of the Eastern Edge'.

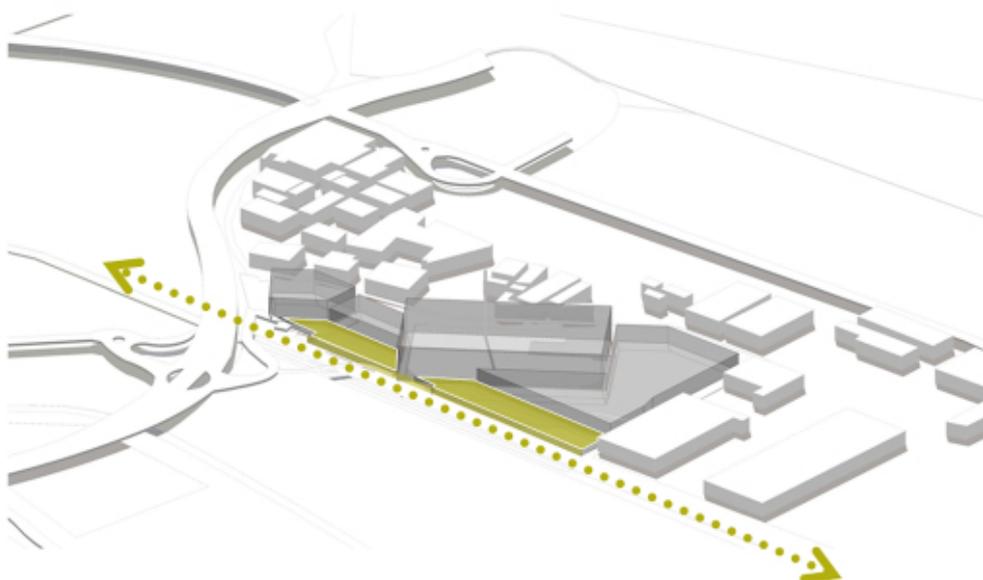


Figure 4.13 Greening of the Eastern Edge

- 4.2.29** A green edge should be created along the eastern boundary. This could be achieved through green roofs and walls, additional planting, lowering building heights, setting back and screening vehicle movements, retaining some existing trees and using natural materials to avoid creating obtrusive visual impacts. This is a sensitive boundary, and its design should seek to mitigate any potential increase in the overall massing of the new development. The design should take particular care over elements which push out vertically or horizontally from the overall massing and therefore can be more difficult to screen with planting or other boundary treatment.
- 4.2.30** The eastern boundary could also accommodate an area of recreational use for employees. Alternatively such provision could be provided along Salmon’s Brook.

4 Principles for future development of the EcoPark

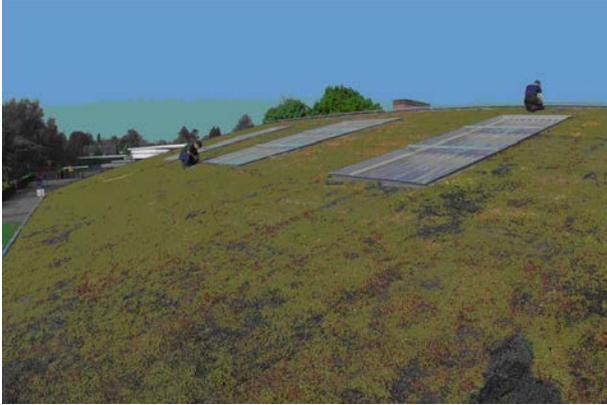


Figure 4.14 Green roof



Figure 4.15 Willow walls



Figure 4.16 Green wall



Figure 4.17 Green buffer zone



Figure 4.18 Green buffer zone and willow wall



Figure 4.19 Green wall

4 Principles for future development of the EcoPark



Figure 4.20 Existing and potential ecological links

Legend

- Site
- Open spaces
- Potential ecological links
- Lee Valley Regional Park

- 4.2.31** Tree planting could be used to visually improve and enhance the site's image along the southern boundary and around the main entrance. Planting in the form of climbers on tensile steel wires to building could also be used to mitigate visual impact.
- 4.2.32** The northern site boundary adjoins the Aztec 406 Industrial Park. This boundary currently comprises a narrow stretch of grass with vegetation on the other side of the perimeter fence. Future development of the site must also consider opportunities to enhance the quality of this boundary.

4 Principles for future development of the EcoPark



Figure 4.21 Green façades



Figure 4.22 Green façades



Figure 4.23 Green façades

- 4.2.33** An integrated long-term landscape and ecological management and maintenance plan should be prepared. This plan should set out the long and short term goals for the soft landscape proposals associated with the development in the interests of the visual amenity, wildlife and nature conservation of the area, including the control of invasive species during construction and over the long term. The plan could be treated as a 'living' document to change and adapt as required as the conditions of the site change over time.

Waterside improvements

- 4.2.34** As discussed above, a green edge should be created along the eastern boundary adjacent to create a high quality waterside environment along the River Lee Navigation. Future development should also take opportunities along the existing strip of land along the western edge of the site, adjacent to Salmon's Brook, for ecological enhancement in combination with landscaping and public amenity improvements. This objective could be achieved by reprofiling the banks of Salmon's Brook, retaining and enhancing the mature willow planting along Salmon's Brook to improve the western site boundary, creating an ecological link by planting more waterside trees, shrubs, wild flower grass mixes, and marginal vegetation on the reprofiled the banks of Salmon's Brook. Opportunities to establish reed beds on Lee Navigation area should be explored where appropriate. The location of any new tree planting should be carefully sited to avoid conflicts with underground utilities, the safeguarded district heating network routes and access for routine and emergency watercourse maintenance.
- 4.2.35** Furthermore, there could be increased connectivity between the Enfield ditch and Salmon's Brook. Proposals for the restoration of Enfield Ditch should be explored. More diversity could be encouraged through a mowing regime for this strip, possibly in combination with some planting or seeding.

4 Principles for future development of the EcoPark



Figure 4.24 Waterside improvements



Figure 4.25 Waterside improvements



Figure 4.26 Waterside improvements

- 4.2.36** Landscaping proposals in the vicinity of the Enfield ditch and Salmon's Brook should also accommodate the Environment Agency's preference for an 8m buffer strip. The landscape aim of such a buffer strip would be to provide marginal habitat for wildlife and reduce the potential for pollutants to enter the watercourse.
- 4.2.37** Future development on the site should be designed to limit light spill onto watercourses and existing dark areas including Salmon's Brook, the Enfield ditch and the LVRP. This would enhance the value of these sites for wildlife and would be particularly beneficial for bat movements that are likely to use linear features such as watercourses and tree lines along the edge of the site for navigation. The design of future lighting should have regard to policies in the emerging Development Management Document which seeks to reduce the impact of light pollution on local amenity, nature conservation/wildlife, and the environment.

Surface water management

- 4.2.38** In line with the National Planning Framework (NPPF) a Site Specific Flood Risk Assessment must be undertaken for any future development proposals at the site. This should assess the risk of all forms of flooding to and from the development and demonstrate how flood risks would be managed taking climate change into account.
- 4.2.39** A drainage strategy for the site should then be developed and this should promote water conservation and efficiency measures in accordance with Enfield Core Strategy Policy 21: Delivering sustainable water supply, drainage and sewerage infrastructure and emerging Development Management Document policies.
- 4.2.40** The drainage strategy must include sustainable drainage measures as a means to manage surface water runoff. Options should be explored to make use of the section of the Enfield ditch within the site for attenuation of rainfall/runoff, possibly through re-profiling of the ditch to create a wider, shallower sided ditch, or the creation of a series of vegetated swales at this location. This would provide attenuation for run-off through the Enfield ditch and into the Salmon's Brook and would also have the added value of increasing ecological potential for species such as water voles that have been identified further up the Lee Navigation. Sustainable water attenuation could also take the form of permeable surfaces and brown/green roofs. The preferred drainage strategy should not increase the risk of flooding elsewhere.

4 Principles for future development of the EcoPark



Figure 4.27 Water attenuation and permeable surfaces



Figure 4.28 Water attenuation and permeable surfaces



Figure 4.29 Ditch restoration



Figure 4.30 Ditch restoration



Figure 4.31 Water attenuation and permeable surfaces

4 Principles for future development of the EcoPark

Health and Environmental Impacts

- 4.2.41** The potential for health impacts will be assessed as part of the planning application; it is at this stage that the developer will submit details of and specify development proposals for the site. Developers submitting planning applications for major developments must provide a Health Impact Assessment (HIA) in accordance with the Mayor's policy in the London Plan (Policy 3.2). The HIA will ensure that the impacts of the development proposal on the health and wellbeing of local communities are assessed in the planning application. Separate Environmental Impact Assessments (EIA), will be used to assess the nature of the operations in relation to the likely impacts this would have on the environment; and ways in which negative impacts can be reduced.
- 4.2.42** The scale and design of buildings, particularly the structure of their foundations must be carefully selected to avoid the creation of pathways for contaminants to the underlying aquifer, particularly in the south of the site where the London Clay is thinnest.
- 4.2.43** Due to the underlying aquifer any Sustainable Drainage Systems (SUDs) should be carefully designed to prevent the infiltration to groundwater of any potentially contaminated water. The focus of the SUDs should be predominantly on attenuation, rather than infiltration. If any SUDs take water from areas such as car parks, petrol interceptors should be used before water enters the SUDS system to prevent pollution/contamination impacts. Any interceptors must be appropriately maintained thereafter.
- 4.2.44** The Environment Agency's (EA) Groundwater protection: Principles and practice (GP3) document describes how they will manage and protect groundwater. The EA would normally object to proposed waste activities in Source Protection Zone 1. However, it will be the responsibility of any developer to undertake assessments/investigations (desk and/or intrusive) and demonstrate that facilities do not pose an unacceptable risk to groundwater. Developers are encouraged to seek further advice from the Environment Agency as part of pre-application discussions.
- 4.2.45** Development at the EcoPark should take a holistic approach to minimise the air quality impacts, including the construction, design and ongoing operations, by the use of advanced modern waste technologies, promoting sustainable design and construction, sustainable transport modes and alternative fuels. Development must be designed to comply with all the relevant environmental regulations and standards set by relevant agencies such as the Environment Agency. Developers should also have regard to best practice and national guidance, including guidance emerging through the GLA's Sustainable Design and Construction Supplementary Planning Guidance, which will include biomass emission standards, and a Construction and Demolition Supplementary Planning Guidance (SPG). Both these documents will aim to help minimise impacts on air quality in London.
- 4.2.46** Waste treatment facilities have the potential to generate odour. Future waste treatment facilities at the site will be enclosed to reduce the impact of odour on the surrounding areas. Any existing facilities, if retained, will have to be significantly upgraded, including addressing any odour issues associated with these existing operations.
- 4.2.47** Waste treatment technologies have the potential to generate noise both during construction and operation. Development at the EcoPark must be sensitively designed, managed and operated to reduce exposure to and the potential for noise generation. The facilities at the site will be enclosed to reduce the impact of noise on the surrounding areas, and this issue needs to be considered and appropriate mitigation put in place to address this.

Sustainable design and construction and BREEAM

- 4.2.48** New buildings at the EcoPark should demonstrate the highest sustainable design and construction credentials achievable and technically feasible on site integrating best practice design standards during the design, construction and operation of the development over its lifetime. Development should help achieve the Core Strategy's strategic objective to deliver environmental sustainability. New facilities on site should meet the policies set out in the Proposed Submission DMD, which require

4 Principles for future development of the EcoPark

4.2.49 Proposals involving the major refurbishment or creation of new non-residential floorspace to achieve the following standards under the relevant BREEAM 2011 scheme (or equivalent rating/scheme) as a minimum, subject to feasibility and viability testing:

- 2013 to 2015 – Seek to exceed a “Very Good” rating
- 2016 to 2018 – “Excellent” rating
- 2019 onwards – Moving towards an “Outstanding” rating (often expressed as net zero carbon development)

4.2.50 However, the Council as Local Planning Authority reserves its position to impose more challenging targets as necessary and in accordance with the development schedule, relevant development plan document and evidence base.

Energy efficiency and use of Low or Zero Carbon technologies

4.2.51 All development will be required to demonstrate high levels of energy efficiency (taking account of both regulated and unregulated energy uses), retrofitting existing installations where practicable and technically feasible, as well as exploring the feasibility of incorporating further Low and Zero Carbon Technologies.

Water efficiency

4.2.52 Beyond the objectives contained in other sections of this document, all development will be required to demonstrate how water usage is minimised across the site (including potable and via abstraction from Salmons Brook) including exploring relevant synergies with nearby users in the area to secure more sustainable water sources and relevant water recycling and harvesting systems

Green procurement

4.2.53 The Proposed Submission DMD requires major development to submit a Green Procurement and Construction Plan. This should demonstrate how the procurement of materials for the development will promote sustainability, including by use of low impact, locally and/or sustainably sourced, reused and recycled materials. The Plan should also include strategies to secure local procurement and employment opportunities. Wherever possible, this should include targets and a process for the implementation of this plan through the development process.

Site Waste Management Plan

4.2.54 The overarching principle of the EcoPark is to treat waste in accordance with the Waste Hierarchy, and the same principle will need to be applied to the construction of the new facilities. A Site Waste Management Plan will be required to demonstrate procedures for the minimisation of construction waste in line with the waste hierarchy and apply the construction, excavation and demolition waste recycling targets set out in the London Plan.

Awareness raising

4.2.55 The EcoPark should continue to carry out a range of activities designed to raise awareness about the role of the EcoPark and the importance of sustainable waste management. Future proposals for the site should consider the following activities/facilities:

- The provision of educational and visitor facilities offer a learning experience focused on sustainable waste management and related matters and to showcase the employment offer
- Site tours – free tours to local residents, educational establishments and community groups to offer the chance to see firsthand how household and commercial waste and recyclables are managed
- Newsletters – explaining what goes on at the site and forthcoming events
- Compost supply - to allotments, parks and gardens in north London
- Events – such as Sustainable Waste Management Week and Compost Master Classes

4 Principles for future development of the EcoPark

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5 Implementation

5 Implementation

5.1 Phasing and construction

- 5.1.1** Based on the current plans of the North London Waste Authority (NLWA), it is anticipated that the site will be redeveloped in two phases. The first phase will develop the areas around the existing EfW (Plot 2) whilst the EfW remains in use. The second phase would develop the EfW plot (Plot 1).
- 5.1.2** The indicative timetable is for the construction of new facilities on Plot 2 to begin in 2014 with operation commencing in 2016. It is anticipated that the EfW on Plot 1 will be decommissioned in 2020. Decommissioning may take approximately two years, following which construction of new facilities might take a further two years.

5.2 Matters to be addressed by a planning application

- 5.2.1** In order to assist the determination of a planning application, regard should be had to the issues set out in this Brief. The Council will seek to adopt a positive approach towards proposals that address the principles set out in this document.
- 5.2.2** The Council will require that the development of this site is considered on a comprehensive basis so that the cumulative form and impact of development can be assessed. Planning applications must provide as much detail as possible on the proposals for the whole site. In all cases, planning applications must include an indication of the quantum of development across the entire site (inclusive of Plot 1 and Plot 2). They must also demonstrate a comprehensive approach towards development, and provide an overall context for and consideration of design, visual impact, phasing/timing of development, indicative location of the energy centre, and a transport assessment for the totality of the site, however it should not be limited to just these matters. The scope of the issues to be covered must be discussed and agreed with the Council prior to its development and submission as part of a planning application. All planning applications should demonstrate that all relevant matters have been considered. To ensure the acceptability of development and that the overall objectives for this site are not prejudiced, the Council will not accept planning applications for discrete plots within the boundaries of the site without a clear understanding about what is expected to happen across the site as a whole.
- 5.2.3** Prior to the submission of any planning application for the site, the Council expects that the applicant will carry out consultation with statutory consultees, stakeholders and the public in the area around the EcoPark. Consultation should take account of the Council's adopted Statement of Community Involvement (2006), or any subsequent revisions to this, the relevant recommendations in an Equalities Impact Assessment (EqIA) and accepted best practice. A Consultation Strategy setting out the overarching approach should be prepared and discussed with the Council. Consultation on the proposals might include but are not limited to public consultation on pre- application proposals and a Planning Panel. The SCI identifies at paragraph 1.2.1 the following Principles for Community Involvement:
- Access to information
 - The opportunity to contribute ideas
 - The opportunity to take an active part in developing proposals and options
 - The opportunity to be consulted and make representations on formal proposals
 - The opportunity to get feedback and be informed about progress and outcomes
- 5.2.4** The Council expects that pre-consultation by the applicant provides a meaningful opportunity for the local community to influence the design and construction of new development at the EcoPark. The applicant should consult the Council to agree appropriate engagement methods and particular groups which should be contacted.

5 Implementation

5.2.5 Future planning applications for the site may also be referable to the Mayor of London due to their potential strategic importance for planning in London. Where this is the case, the Mayor is required to provide a statement, with reasons, setting out whether he considers that the referred application complies with the London Plan.

5.2.6 The following information is likely to be required as part of a future planning application. This has been informed by the Council's validation checklist and the actual information required should be agreed with the Council prior to submission:

- Design and Access Statement
- Drawings
- Environmental Statement, including Ecological Report and odour assessment
- Energy Statement
- Sustainable Design and Construction Assessment
- Health Impact Assessment
- Site Waste Management Plan
- Transport Assessment
- Flood Risk Assessment (This should be discussed with the Environment Agency, and may require additional information including a drainage diagram)
- Tree Survey
- Demolition Statement
- Noise Impact Assessment
- Light Assessment Report
- Pre-application Consultation Statement
- Equalities Impact Assessment
- Appropriate Assessment
- Groundwater Risk Assessment
- Construction Management Plan, including Code of Construction Practice
- BREEAM Pre-assessment
- Green Procurement Plan

5.2.7 The Transport Assessment should follow the latest Transport for London (TfL) Best Practice Guidance (currently 2010), although the full scope must be discussed and agreed with the Council's Transport Officers and Transport for London (TfL) prior to submission. As a minimum it should include:

- Baseline conditions of the local and wider highway network;
- Expected trip generation, distribution and modal share;
- Analysis of the impact on the road network, cycle and pedestrian routes, and the public transport network. As a minimum this should include peak hour capacity analysis of the following junctions: Fore Street, Cook's Ferry Roundabout, Great Cambridge and Montagu Street/Conduit Way;
- Analysis of cumulative impact arising from other committed developments in the area, having particular regard to the growth forecast at Meridian Water, and a localised assessment of the impact of these developments on the A406.
- Mitigation and planning obligations (S106); and
- Travel Plan, Delivery and Servicing Plans (DSPS), and Construction Logistics Plans (CLP)
- Parking and cycle provision

5.3 Planning Obligations

Planning Obligations

5.3.1 The Council is in the process of developing a Community Infrastructure Levy (CIL) Charging Schedule. The CIL is a new government initiative to aid infrastructure investment in England and Wales. It is intended to provide the mechanism through which contributions can be collected from all developments in a simple, fair and transparent manner.

5 Implementation

- 5.3.2** The CIL Regulations provide a reform to the current system of planning obligations to enable both Section 106 contributions and the new CIL to operate effectively alongside each other. The appropriate usage of planning obligations when granting planning permissions will be restricted to obligations that are:
- necessary to make the development acceptable in planning terms;
 - directly related to the development; and
 - fairly and reasonably related in scale and kind to the development.
- 5.3.3** Once adopted the Enfield CIL Charging Schedule will set out the rates in which CIL is to be priced within the Borough, based on pounds per square metre of net additional floor space. If the EcoPark planning application is determined after the adoption of the Charging Schedule, and if the Charging Schedule applied to waste developments, payments would be charged at the rate specified in the Schedule.
- 5.3.4** The development will also be liable to pay the Mayoral CIL intended to fund Crossrail. Enfield is a zone 3 borough and the rate is therefore £20 per square metre of development.
- 5.3.5** Irrespective of any CIL requirement, there may still be a need for additional planning obligations. These S106 contributions would be sought for site specific mitigation issues in line with the Council's adopted S106 Supplementary Planning Document.
- 5.3.6** Wherever reasonably practicable the development should avoid or mitigate potential impacts through site design, construction or ongoing operation and management. The local planning authority would seek to secure these measures through the use of planning conditions. When planning obligations are necessary to make the development acceptable in planning terms they should only be used to ensure provision of facilities or mitigation of impacts which cannot be achieved on-site.
- 5.3.7** Additional obligations to secure any on-site measures required to make the development acceptable in planning terms, and necessary off site mitigation measures might include:
- a commitment to provide heat to the Lee Valley Heat Network
 - a commitment to safeguard space for the energy centre and pipe routes from the site
 - mitigation measures associated with the outcome of any Environmental Impact Assessment
 - landscape strategy
 - measures that ensure the development maintains access to the Lee Navigation for waterborne transport
 - supporting business and employment initiatives, including Local labour initiatives such as local labour in construction; employment skills training; apprenticeships; and job brokerage.
- 5.3.8** The approach to planning obligations should be discussed with the Council as soon as possible.
- 5.3.9** If the CIL charging schedule is not in place at the time the planning application is determined, a Section 106 Agreement will continue to be used as a means to secure any required mitigation measures.

Contact information

The Council welcome and encourage developers to get pre-application advice before submitting a planning application and further information on this service is provided on the Council's website: www.enfield.gov.uk.

To obtain pre-application advice for the Edmonton EcoPark site, please contact Richard Laws from the Development Management Team on 0208 379 3605 or via email: richard.laws@enfield.gov.uk.

For further information on this Planning Brief please contact the Planning Policy Team on 0208 379 3866 or localplan@enfield.gov.uk.

5 Implementation

Appendix A References

Appendix A References

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- London Borough of Enfield, November 2010. The Enfield Plan 2010 – 2025

Appendix A References

Appendix B Potential Waste Treatment Facilities

Appendix B Potential Waste Treatment Facilities

The following facilities could be used on site to treat recyclable waste:

- **Materials Reclamation Facility (MRF)** - separates the individual components of waste using a variety of machinery and manual handling. Recyclables are deposited into a storage pit and are fed onto a series of conveyor belts to begin their trip around the facility. Each area in the MRF helps to separate one type of recyclable material from another. A typical MRF will separate recyclable materials from a mixture of paper, card, glass, plastic and drinks cans;
- **Composting** - is the process in which biodegradable material is broken down in the presence of oxygen by microorganisms. This process releases carbon dioxide and heat and generates a solid residue – compost. Producing usable compost can take up to 6 months. In-vessel composting takes place inside a container where the moisture content, air flow and temperature are carefully controlled to optimise the process;
- **Anaerobic digestion (AD)** - is the process by which biodegradable waste is broken down in an enclosed reactor vessel in the absence of air to create biogas - a mixture of mostly hydrogen, methane and carbon dioxide and sludge;
- **Bulking facilities** - waste is unloaded from the collection vehicles and reloaded or 'bulked' into a larger vehicle for transport to a reprocessor.

Facilities which might be used at the site to treat residual waste (the waste that is left after some items have been separated for recycling) include:

- **Mechanical biological treatment (MBT)** - is a general term for treatment systems that include a mechanical sorting system followed by a biological treatment facility. Systems can vary in terms of the degree of mechanical sorting and the type of biological process applied. Consequently the materials sorted from the waste and the end products of the process can vary depending on the separation process employed. This process can result in a 'solid recovered fuel' (SRF) which can be used to produce heat and electricity.
- **Mechanical heat treatment (MHT)** - involves applying heat energy to the waste to reduce its volume and aid the recovery of recyclables. A typical example of a MHT process is autoclaving. This technique is commonly applied to clinical waste but can also be applied to residual waste. Metal, glass and some plastics can be recycled after treatment. Once recyclables have been removed the remaining material can be processed to make an SRF.
- **Energy from waste (EfW)** – typically involves incineration processes in which the residual waste is subject to a combustion process at a temperature typically between 850°C and 1,000°C. The combustion relies on the intimate mixing of the waste stream with air at a high temperature. The process releases heat, a mixture of carbon dioxide and steam and produces ash. Other gases and pollutants generated during the process are removed before the gas is discharged. Metals are recycled from the ash and the remainder is recycled into aggregate for use in construction. A modern energy from waste plant would usually be constructed with a combined heat and power (CHP) system to provide heat and power to local residents and businesses.
- **Advanced thermal technologies (ATT)** - emerging technologies for treating residual waste or SRF in which different parts of the combustion process happen in different parts of the plant. This gives a greater control of the overall combustion process. Two types of technology are commonly employed; these are pyrolysis and gasification.

Appendix B Potential Waste Treatment Facilities

Technology	Typical features and impacts
General waste treatment impact risks	<p>The following impacts could potentially arise from a range of waste treatment technologies:</p> <ul style="list-style-type: none"> • Dust / odour - Any waste management operations can give rise to dust and odours. These can be minimised by good building design, performing all operations under controlled conditions indoors, good working practices and effective management undertaken for dust suppression from vehicle movements. • Flies, vermin and birds - Effective housekeeping and on site management of tipping and storage areas is essential to minimise the risk from vermin and other pests. • Noise - Noise is an issue that will be controlled under the waste licensing regulations and noise levels received at nearby receptors can be limited. through enclosure of all waste handling operations and sound site management; • Litter - Any waste which contains plastics and paper can potentially lead to litter problems. Litter problems can be minimised as long as good working practices are adhered to and vehicles use covers and reception and processing are undertaken indoors. <p>Features and impacts specific to each technology are discussed below.</p>
Materials Recovery Facility (MRF)	<p>Mechanical separation and recovery of recyclable materials. Buildings tend to be warehouse-type sheds (such as the Greenstar MRF to the north of the EcoPark) of up to 20-25m in height.</p> <p>MRFs are energy intensive but typically operate on electric power only and therefore would have no or limited impact on air quality.</p>
Composting	<p>Composting facilities can be enclosed or open air. In-vessel composting (IVC) systems are more likely for an urban, space-constrained location such as the EcoPark. Structures are typically low rise (less than 15m).</p> <p>Composting requires little power input as the aerobic digestion process is normally self-sustaining. The heat generated by the composting process is low grade (low temperature) and unlikely to be suitable for capture and use.</p>
Anaerobic digestion (AD)	<p>Anaerobic digestion is operated within sealed vessels. Some processes require heat input while others are self-sustaining. Additional tanks are required to store the biogas produced by the process and the residual digestate and liquor.</p> <p>Reception buildings and vessels are typically up to 30m in height.</p> <p>AD plants produce a methane-rich gas which can be used to generate energy (heat and power). Depending on the process this energy may be surplus to site requirements or it may be wholly consumed on the site to operate the plant (parasitic load) or to operate other facilities on the site.</p> <p>However, there is also the potential to clean and inject the gas into the gas grid or to use it as a vehicle fuel.</p>
Mechanical biological treatment (MBT)	<p>MBT treatment uses a combination of the above listed processes to achieve more complete treatment of waste. MBT buildings can be in the range of 30m in height, or higher where activities are carried out at two levels.</p>

Appendix B Potential Waste Treatment Facilities

Technology	Typical features and impacts
Mechanical heat treatment (MHT)	<p>MHT processes are used to sterilise and/or to reduce the moisture content of waste materials. In the latter application the process will raise the calorific value of the dried material, making it more suitable for use as a fuel.</p> <p>MHT buildings typically range in height up to 15m.</p>
Energy From Waste (EfW)	<p>EfW normally refers to conventional direct combustion processes to generate energy in the form of heat and power. EfW plants are typically 50-60m in height for the main building, with a flue stack typically 70-100m (the EcoPark EfW stack is around 100m). EfW is a proven technology with high reliability.</p> <p>The combustion process can give rise to the risk of air quality impacts; however all EfW plants must comply with strict environmental permitting regulations and are therefore always fitted with multiple flue gas treatment technologies. The height of the stack is necessary both to allow this treatment process to be completed (as the exhaust pass through treatment stages) and to ensure safe dispersion of the emitted gases and particulates.</p> <p>Significant economies of scale operate with EfW plants and therefore they tend to be large plants able to handle at least 250,000tpa.</p> <p>EfW plants can provide an important source of low carbon decentralised energy for cities, including the supply of heat to a local area.</p> <p>Bottom ash can be used as a material for the construction industry. The EcoPark currently has a bottom ash sorting facility on site, but this will be removed as part of the redevelopment of Plot 2.</p>
Advanced thermal treatment technologies	<p>ATT represent a number of specific technologies which separate the energy recovery process into separate steps: first is the conversion of solid materials to a combustible gas, such as through gasification or pyrolysis, and next is the combustion of that gas to generate energy in the form of heat and power.</p> <p>ATT plants tend to be smaller than conventional EfW plants, although this is in part due to the emerging nature of the technology. ATT buildings would typically be up to 25m in height, with a stack of up to 70m.</p> <p>ATT plants could in the future provide an important source of low carbon decentralised energy for cities, including the supply of heat to a local area. Because of the separate production of gas, there is also the potential to clean and inject the gas into the gas grid. However the development of ATT technologies is in its infancy in the UK and is currently considered not fully proven.</p>

Table .1

Appendix B Potential Waste Treatment Facilities